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# THE JOURNAL

OF THE

## American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 74, No. 15 | 535 North Dearborn Street, CHICAGO, ILL. | APRIL 10, 1920

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized on June 14, 1918.

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# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. 74, No. 15 CHICAGO, ILLINOIS APRIL 10, 1920


## THE INCIDENCE OF ACUTE RHEUMATIC FEVER AT BELLEVUE HOSPITAL*


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On returning in the spring of 1919 to service in the wards of Bellevue Hospital, after a two years' absence, I was struck by the fact that there were no cases of acute rheumatism in the service. My memory was that spring and summer were the months when formerly there had been the largest number of cases. The house staff, on being questioned, seemed to accept it as not unusual; and though their memory dated back but two years at most, still it was evident that they were accustomed to the occurrence of fewer cases of the disease than had been my own hospital experience.

There were admitted into Bellevue Hospital 6,535 cases of acute rheumatic fever from January, 1906, to Sept. 1, 1919. Unfortunately, the records of the last four months of 1919 are still incomplete for the moment. In dealing with any hospital history records, with a varying house staff taught in three different schools of medicine in New York City and in the open division, coming from several widely separated schools over the United States and Canada, one would expect to find a certain variation of opinion as to what clinical picture would be recorded under such a general heading as acute rheumatism. But in reading the histories one finds it generally accepted, with few exceptions, that classified under rheumatism is the inflammatory

TABLE 1.—CASES OF ARTHRITIS, 1912-1918

| Year | No. of Cases |
|---|---|
| 1912 | 106 |
| 1913 | 95 |
| 1914 | 147 |
| 1915 | 205 |
| 1916 | 200 |
| 1917 | 242 |
| 1918 | 226 |

arthritis with fever affecting two or more large joints and frequently showing cardiac manifestation. The arthritis affecting the smaller joints of the hands and feet or affecting only one large joint are classified under arthritis, or knees and ankles affected with but little if any fever. Conversely, in studying the histories of arthritis one is struck by the unanimity with which acute arthritis refers to traumatic injuries to single joints or the inflammation of single joints, nontraumatic, or the acute multiple arthritis of the smaller joints and without cardiac valvular involvement. Only a very small percentage will strike one as more fittingly to be classified from arthritis to acute rheumatism or vice versa. The number of cases of arthritis five and six years ago were about one quarter those of rheumatism, but during the past four years the number of rheumatism cases has diminished and the number of arthritis cases increased until in 1918 there were slightly more cases of arthritis than of rheumatism, there being 218 cases of rheumatism and 226 of arthritis. Table 1 shows the number of arthritis cases since 1912.

TABLE 2.—RELATION OF RHEUMATIC FEVER CASES TO TOTAL ADMISSIONS

| Years | Total Rheumatic Fever Cases Admitted to Bellevue Hospital | Total Admissions to Bellevue Hospital All Causes | Percentage of Rheumatic Fever Cases to Total Admissons |
|---|---|---|---|
| 1906 | 444 | 23,000 | 1.87 |
| 1907 | 706 | 28,789 | 2.45 |
| 1908 | 630 | 29,411 | 2.4 |
| 1909 | 512 | 31,652 | 1.61 |
| 1910 | 599 | 36,820 | 1.62 |
| 1911 | 526 | 33,214 | 1.58 |
| 1912 | 432 | 36,113 | 1.19 |
| 1913 | 489 | 36,802 | 1.36 |
| 1914 | 581 | 37,162 | 1.56 |
| 1915 | 475 | 46,241 | 1.02 |
| 1916 | 394 | 43,951 | 0.896 |
| 1917 | 457 | 44,315 | 1.03 |
| 1918 | 218 | 40,980 | 0.531 |
| 1919 | 190* | 37,632 | 0.521 |

* Calculated from average admissions for last four months of five previous years, i. e., adding 11 per cent. to admissions for first nine months, 172 ÷ 18 = 190.

This classification also rules out the number of arthritis deformans, the chronic arthritis and the gonorrheal joint infections.

In studying the rheumatism cases tabulated by year for age and total number (Tables 2 and 3), it is seen that in 1907 the percentage of acute rheumatism cases to the total admissions was 706 cases in 28,789 admissions, that is, 2.45 per cent. From that year the percentage has fluctuated slightly, but it steadily diminished to 1918, when it was 0.531. The total number of rheumatism cases had fallen from 706 to 218, and the total admissions had increased from 28,789 to 40,980. From 1909 through 1914, the number of rheumatism cases ran from 599 to 432, and the total admissions from 31,652 to 37,162, with practically a stationary ratio to total admissions, that of 1.6 per cent. But from 1915 for the next four years, the total admissions to the hospital increased greatly, and the number of cases of rheumatism diminished, so that the ratio to admissions becomes 1.02, 0.896, 1.03, 0.531 and 0.521 per cent. In 1919 we have the actual number of admissions for acute rheumatism for the first nine months of the year; but in calculating the total for

* Read before the Association of Cardiac Clinics, New York, Feb. 26, 1920.

1919, the actual admissions for the last four months of each year for the preceding five years were taken as a standard. From these figures it is evident that 11 per cent. of the total admissions for each year for rheumatism have been admitted during the last four months of the year. During the previous three years averaged about the same. For all ages under 20 years, the percentage of these ages to the total has distinctly increased, as the total number of cases of rheumatism has diminished. Young persons from 20 to 24 and from 25 to 29 show a greatly diminished actual number of cases admitted, and in the last two years, 1918

TABLE 3.—ADMISSION OF PATIENTS WITH ACUTE RHEUMATISM ACCORDING TO AGE AND RATIO OF EACH FIVE-YEAR PERIOD TO TOTAL ADMISSIONS FOR EACH YEAR

| | 1911 | | 1912 | | 1913 | | 1914 | | 1915 | | 1916 | | 1917 | | 1918 | | 1919 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Under 5 years of age | .. | .... | 4 | .... | 1 | .... | .. | .... | 2 | .... | 1 | .... | 3 | .... | .. | .... | 1 | .... |
| From 5 to 9 years | 4 | 0.7 | 2 | 0.4 | 6 | 1.2 | 14 | 2.4 | 11 | 2.3 | 10 | 2.5 | 9 | 1.9 | 13 | 5.9 | 15 | 8.7 |
| 10 to 14 years | 14 | 2.6 | 7 | 1.6 | 22 | 4.5 | 12 | 2.1 | 19 | 4.0 | 10 | 2.5 | 19 | 4.1 | 15 | 6.9 | 15 | 8.7 |
| 15 to 19 years | 46 | 8.7 | 31 | 7.1 | 47 | 9.6 | 48 | 8.2 | 33 | 6.9 | 20 | 5.0 | 31 | 6.7 | 23 | 10.5 | 12 | 6.9 |
| 20 to 24 years | 93 | 17.7 | 84 | 19.4 | 106 | 21.7 | 113 | 19.4 | 90 | 18.9 | 66 | 16.7 | 84 | 18.3 | 31 | 14.2 | 24 | 13.9 |
| 25 to 29 years | 89 | 16.8 | 49 | 11.0 | 80 | 18.4 | 107 | 18.4 | 80 | 19.0 | 48 | 12.0 | 88 | 19.0 | 30 | 13.0 | 13 | 7.5 |
| 30 to 34 years | 84 | 16.0 | 63 | 14.5 | 75 | 15.3 | 82 | 14.0 | 67 | 14.0 | 61 | 15.4 | 62 | 13.5 | 27 | 12.3 | 20 | 17.4 |
| 35 to 39 years | 53 | 10.1 | 67 | 15.5 | 58 | 11.8 | 59 | 10.1 | 59 | 12.4 | 49 | 12.0 | 48 | 10.5 | 26 | 11.9 | 21 | 12.2 |
| 40 to 44 years | 50 | 9.4 | 51 | 11.8 | 48 | 9.8 | 44 | 7.5 | 38 | 8.0 | 42 | 10.6 | 39 | 8.5 | 12 | 5.5 | 16 | 9.3 |
| 45 to 49 years | 52 | 9.8 | 28 | 6.0 | 23 | 4.9 | 38 | 6.5 | 29 | 6.0 | 27 | 6.8 | 36 | 7.9 | 20 | 9.0 | 12 | 6.9 |
| 50 to 54 years | 21 | 4.0 | 25 | 5.7 | 12 | 2.4 | 33 | 5.6 | 20 | 4.0 | 31 | 7.1 | 18 | 3 9 | 8 | 3.6 | 6 | 5.4 |
| 55 to 59 years | 9 | 1.6 | 10 | 2.3 | 6 | 1.2 | 22 | 3.7 | 12 | 2.5 | 14 | 3.4 | 11 | 2.4 | 9 | 4.0 | 3 | 1.7 |
| 60 to 64 years | 9 | 1.6 | 8 | 1.8 | 9 | 1.8 | 6 | 1.0 | 9 | 1.9 | 9 | 2.3 | 6 | 1.3 | 3 | 1.3 | 3 | 1.7 |
| Over 65 years | 1 | .... | 3 | .... | 1 | .... | 3 | .... | 6 | .... | 10 | .... | 3 | .... | 1 | .... | 1 | .... |
| Totals | 526 | | 432 | | 489 | | 581 | | 475 | | 394 | | 457 | | 215 | | 172* | |

* First nine months of year.

the percentage has been 9 instead of 11. We therefore added 11 to the admissions for 1919 as the probable total, the real figures to be obtained later.

Table 4 shows the number of patients with rheumatism admitted by months from 1914 to 1918, inclusive, and for the first nine months of 1919. This

TABLE 4.—NUMBER OF ADMISSIONS FOR RHEUMATIC FEVER

| | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 |
|---|---|---|---|---|---|---|
| January | 45 | 36 | 23 | 22 | 24 | 15 |
| February | 46 | 28 | 36 | 33 | 28 | 7 |
| March | 51 | 54 | 50 | 60 | 32 | 23 |
| April | 96 | 50 | 69 | 69 | 30 | 30 |
| May | 78 | 84 | 65 | 75 | 33 | 26 |
| June | 74 | 57 | 35 | 76 | 26 | 31 |
| July | 38 | 55 | 50 | 48 | 20 | 27 |
| August | 37 | 26 | 29 | 22 | 9 | 14 |
| September | 23 | 25 | 8 | 19 | 7 | .. |
| October | 22 | 18 | 8 | 4 | 2 | .. |
| November | 16 | 18 | 7 | 7 | 2 | .. |
| December | 23 | 19 | 11 | 19 | 6 | .. |
| | 579 | 470 | 391 | 455 | 219 | 172 |

table further shows that rheumatism is noticeably more prevalent from March 1 to August 1 than in the other months of the year, showing the disease to be one of spring and summer predominance. This tends to disprove the "chill" theory of causation as brought forward by Cullen in 1778 and held until recent years. Hirsch shows that in Denmark and Germany the winter months of December, January and February show usually a higher incidence than spring and summer. Similarly separated into seasons, the Bellevue figures of 1915 through 1918 have a spring and summer excess except in the winter months of 1918 (Table 5).

Considering the relation of age to the occurrence of rheumatism, we have definite figures from 1911 to 1919. Divided in quinquennial periods from 5 to 9 and 10 to 14 years of age, the actual number of admissions of the 5 to 9 group has increased, but the 10 to 14 group has remained about the same, so that the percentage of the ratio of these years to the total admissions for the year has risen as the total number of admissions has decreased. From 15 to 19 years the actual number has diminished, but the percentage has and 1919, a percentage fall also. From 30 to 39 years of age, the total number of admissions has fallen with but slight change in percentage to total cases. The same can be said for the years 40 to 59. There has been, therefore, a great diminution of the total number of patients with rheumatism admitted from 15 years of age on. Under 15 years of age the total number admitted has remained stationary. From 15 to 29 years of age, both the actual number of patients admitted and the percentage of these age groups to the total number each year has noticeably diminished, particularly in the years 20 to 29. From 30 years onward, the greatest change has been in a diminution of actual numbers.

### EFFECT OF PREVENTIVE MEASURES

These changes are marked after the year 1914. Has any new factor appeared in the preventive measures against rheumatism since 1914? None, except the spread among the medical profession of realization of the relation of focal infections to general diseases; and it was about six years ago that the dental clinics were established in the various hospitals in this city and the tonsillectomy clinics became vigorously active. The foregoing figures would seem to indicate that in the years of childhood, from 5 to 14, the impression of these preventive measures has not been very notice-

TABLE 5.—PERCENTAGE OF ADMISSIONS FOR RHEUMATIC FEVER

| | Winter | Spring | Summer | Autumn |
|---|---|---|---|---|
| | Dec., Jan., Feb. | Mar., Apr., May | June, July, Aug. | Sept., Oct., Nov. |
| 1915 (+ Dec., 1914) | 18.3 | 39.6 | 29.1 | 12.8 |
| 1916 | 19.5 | 46.1 | 28.7 | 5.6 |
| 1917 | 14.9 | 45.6 | 32.4 | 6.6 |
| 1918 | 30.6 | 40.9 | 23.7 | 4.7 |

able. In young adults from 15 to 29 there has been a strong impression made. Has this been due to disinfecting the teeth or removing tonsils or both, or neither? From 30 years to 50 there has also been evident results of dental work. To confirm these impressions, 1,000 consecutive histories of rheumatism were examined in Bellevue in the 1915-1918 period. In the

forty-three children of this group, 58 per cent. are recorded as having bad tonsils and 53.4 per cent. as having bad teeth. The records show that 25.3 per cent. of these 1,000 patients had tonsils noted as bad and 68.3 per cent. had teeth noted as bad. Thirteen per cent. are noted as having both tonsils and teeth bad. Tonsils alone seemed to be the focus of infection in 11.3 per cent., teeth alone in 55 per cent., and both bad in 13 per cent. The teeth are mentioned as good in only 6.7 per cent. of these 1,000 patients, and thirty-one of these sixty-seven patients are noted as having severe tonsillar infections.

As a possible checking comparison, the records of 250 consecutive cases of pneumonia were studied to see in what proportion the teeth and tonsils showed infection but with no rheumatism or other arthritis. The percentage of bad teeth in this group is 57, as against 68 of the rheumatic group, and the total percentage of tonsils noted as bad, 17 as against 25.3. More striking, however, is the percentage of patients in whom the teeth are noted as good, being 19, as against 6.7 in the rheumatic cases.

It is impossible to state what percentage of these cases showed cardiac involvement. In 1908, in studying the histories of 500 cases of rheumatism in Bellevue, 253, or 56.6 per cent., showed recent or old endocarditis. If the cardiac involvement dominated the clinical picture, the patient would probably be recorded under acute or chronic cardiovalvular disease and not under acute rheumatism. The liability, moreover, to cardiac involvement varies with age, the figures of Church showing 75 per cent. for children under 10 years of age and liability to their involvement diminishing, until over 40 years of age the percentage was 12.5 per cent.

TABLE 6.—CONDITION OF TEETH AND TONSILS IN ONE THOUSAND CONSECUTIVE HISTORIES OF ACUTE RHEUMATIC FEVER (1915-1918)

| | Cases | | Controls | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Cases excluded* | 34 | .... | 0 | 0 |
| Tonsils bad | 113 | 11.3 | 27 | 11 |
| Teeth bad | 551 | 55.0 | 126 | 51 |
| Both bad | 131 | 13.0 | 15 | 6 |
| Neither mentioned | 119 | 11.9 | 33 | 13 |
| Throat inflamed | 224 | 22.4 | 0 | 0 |
| Teeth good† | 67 | 6.7 | 48 | 19 |
| Total bad tonsils | 253 | 25.3 | 42 | 17 |
| Total bad teeth | 683 | 68.3 | 141 | 57 |

Total cases, 1,000; total controls, 250.

* Cases excluded history showed patient suffering from some other disease.

† Of these sixty-seven cases, thirty-one are especially noted as instances of marked tonsillar trouble.

## CONCLUSION

These figures were obtained in gathering material for a report on health insurance to see whether or not there had been an actual diminution in the number of cases of acute rheumatic fever admitted to Bellevue Hospital, and to see whether any deductions could be drawn from them regarding the wisdom of including dental hygiene in the preventive measures of social insurance. They are too limited for any sweeping generalizations. But it would seem that the actual and striking diminution of total admissions for rheumatic fever of the past two years was more than accidental, and that for this the dental hygiene more than any other one factor was responsible. That tonsillectomy has also made its impression is most probable, as the diminution of both total number of admissions in the 20 to 29 year group and the percentage ratio to total number of this group is really most striking, especially since during this period of life the liability to rheumatic infection is especially noticeable. The average number admitted of 20 to 29 years of age during the four year period 1911 to 1914 was 180, while during the five year period 1915 to 1919 it was 110. The ratio to total admissions has also fallen from 17.8 per cent. for 1911 to 1914 to 15.3 per cent. for 1915 to 1919. The two periods from 20 to 29 are the periods in which the figures show most definitely an average reduction of percentage to total, combined with a definite reduction of total admissions. Have tonsillectomies begun to tell, or has it been oral and dental hygiene? Undoubtedly both, as ten years have not elapsed since tonsillectomy before 15 years of age has become widespread, so that it could not previously have affected the older years of this and other age groups in the community.

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# ADEQUATE PREPARATION FOR THE PRACTICE OF OTOLARYNGOLOGY

### DISCUSSION OF AN OLD PROBLEM *

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CHICAGO

As an introduction to my discussion I wish to relate a few experiences which have come to me recently.

## REPORT OF CASES

CASE 1.—Last December a man, aged 23, consulted me about his ear trouble. He stated that for perhaps six or eight years he had noticed an insidious development of deafness, associated with a persistent tinnitus aurium. At first only one ear was involved, but for two years both had been affected.

Both drum membranes were unusually transparent, but in other respects they were quite normal. The functional tests revealed a marked elevation of the lower tone limit, a strongly negative Rinné test for both ears, and an actual prolongation of bone conduction, with an extensive defect at the upper tone limit. The diagnosis was clearly one of otosclerosis, producing fixation of the stapes and a degeneration in the labyrinth. The lower and middle turbinated bodies had been removed from both sides, the septum had been resected, the faucial tonsils had been enucleated, and the nasopharynx had been curetted. In the operation on the faucial tonsils, both posterior pillars had been removed. The result of these operations was a marked pharyngitis sicca, with crusting in the nasopharynx, thickening of the lateral bands of the pharynx, caused by the removal of the posterior pillars, and an annoying rhinitis.

The patient stated positively that he had never experienced any nose or throat symptoms prior to his operations, and that the series of operations had been performed to arrest his increasing deafness. It is at once apparent to any one who understands the diagnosis of ear diseases that this patient was suffering from a form of ear trouble which has no especial relation to nose and throat conditions, and that operations on the nose and throat could not be expected to better his ear condition.

CASE 2.—Last month a man, aged 20, was referred to me from a neighboring state because of tinnitus aurium, which had annoyed him for more than a year. A letter from his family physician stated that the patient was coming to me to have carried out a series of operations on the nose and throat, which had been recommended by a local specialist, in order to save the patient from losing his hearing. The

* Read before the Chicago Laryngological and Otological Society, March 1, 1920.

operations that were recommended included resection of the nasal septum, turbinectomies and removal of the tonsils. The patient was experiencing no nose or throat trouble. Both drum membranes were quite normal, and the functional examination disclosed no defect in the hearing. It was possible that the tinnitus was being caused by an incipient otosclerosis, which had not as yet produced any defect in the hearing. One thing was certain: the patient did not suffer from any middle ear disease which could have been influenced by nose or throat conditions.

CASE 3.—During the same week a young woman residing some distance from Chicago consulted me about having a mastoid operation, which she had been urged to have done. The hearing in the right ear was very much reduced, as the result of an exhausted suppurative otitis media. The hearing in the left ear was only slightly impaired. In this ear there was found a slight mucous discharge which came from a large perforation in the anterior segment of the membrana tympani. This discharge, the patient stated, had recurred from time to time in this ear since childhood. There was no odor. It was because of this discharge that the radical mastoid operation had been urged as a prophylactic measure to prevent a possible serious intracranial complication. The palpable facts in this case were, first, that the patient was not suffering from a form of ear trouble which leads to a serious complication and, second, that an operation had been proposed which might very easily result in a serious impairment of the hearing in the one ear on which the patient had to rely. In other words, an operation was proposed for an ear condition which did not require an operation and, furthermore, if a condition had really existed in this ear which would ordinarily justify an operation, such a procedure would be warranted in this case only in the presence of symptoms indicating an impending serious complication, because it was the one ear on which the patient had to rely for hearing.

CASE 4.—A few weeks ago a patient came to the Presbyterian Hospital suffering from a discharging ear, the result of an acute otitis media. He stated that his ear discharge had begun last December and that practically from the onset he had suffered from pain, more or less severe, in the mastoid, and that the region over the process had been swollen and tender for a couple of weeks. Only two days before I saw this patient he had been urged to have his tonsils removed, a submucous resection of the septum performed, and turbinectomies, in order to cure his discharging ear.

### COMMENT

Here is a series of cases presenting the most elementary clinical problems that confront the otolaryngologist and in each instance entirely wrong advice has been given. The questions arise: What is the cause of this state of affairs, and is there a remedy? The cause for this condition is the fact that the country is literally flooded with general practitioners who have found a lucrative field of work in doing operations on the nose and throat, but who have had no fundamental training in otolaryngology which has prepared them to make the proper examination or to diagnose the conditions requiring these operations. For years general practitioners have been coming to our city clinics, especially to the so-called postgraduate schools, with the sole object of learning the technic of a few operations on the nose and throat. It has been proverbial that these men have not been interested in learning the principles of otolaryngology. Diagnosis has not especially interested them. They came to get a smattering of technic for a few operations. This they could get in a few weeks, whereupon they returned to their practice to begin doing these operations on their patients. It is not surprising that the wrong advice is so frequently given, or that so many unnecessary operations are being performed.

The remedy for this state of affairs is equally clear. The representative otolaryngologists throughout the country should insist that the practitioners who come to them for instruction should first acquire a knowledge of otolaryngology before they are taught to do operations in this specialty. Otolaryngology is not such a difficult subject that it requires a genius to master its principles. On the other hand, it is just as clear that these principles cannot be acquired by a few weeks or a few months' attendance at postgraduate clinics. We should insist that a physician who is preparing to practice otolaryngology should spend as a minimum one year of full time work in the study of this subject. His work during this year should be as much in the study of the fundamental sciences of anatomy, embryology, physiology and pathology as in the study of the clinical aspects of the subject. It does not suffice that he assist in a clinic during this year, where the chief work is the removal of tonsils and the correction of septum irregularities. His reading should be directed, and assistance should be given him in learning to make diagnoses and to understand the proper indications for operative treatment. The technic of operations should be taught only as the final part of such preparation. It is a relatively simple matter to teach a student the technic of operations. It is a difficult problem to teach the methods of examination and the making of diagnoses. The situation throughout the country does not call so much for a large number of men to do the work in otolaryngology as it does for the adequate training of only a relatively small fraction of the men who are at present attempting to take care of this work. I am told that in many communities the number of men who are limiting their practice to otolaryngology often exceeds that of the men doing all the other medical work, and that these men are succeeding financially more than their fellows largely because of the unnecessary surgical work which they are undertaking to do.

We owe it to the public and the specialty which we are attempting to represent that we take a definite stand on this proposition of adequate preparation for practice in this field. We cannot directly control the unscrupulous practitioner who takes a case in which we refuse to operate and which he himself knows does not require an operation, and who subjects the patient to, say, a tonsil enucleation, simply because the patient has got it into his head that his tonsils are causing an imaginary trouble; but we can and should control the preparation of men who are attempting the operations in our specialty without knowing the indications for these operations. The need of controlling the preparation for special practice is much greater now than it was a few years ago, when the general practitioner was attempting to treat these cases simply by using sprays and topical applications. No special harm to patients was done by such treatment. But give these practitioners enough knowledge of the technic of an operation or two on the nose or throat, so that they can undertake to do these operations, and the field for harm by doing unnecessary surgery is opened.

This is not a new problem. In 1907 I insisted [1] that the preparation for special practice should be as much in the fundamental sciences as in the clinical study. I emphasized the point that this work should be done in the laboratories of the university, and was the first,

1. Shambaugh, G. E.: The Preparation of the Specialist, J. A. M. A. 49: 540-543 (Aug. 17) 1907.

I believe, to express the view that it be put on the basis of genuine graduate work leading to the granting by the university of a higher degree, the degree of Doctor of Philosophy, for example, in Otology. We now for the first time see this proposition being taken up by some of our universities.

Again in 1909 I pointed out [2] the inability of the existing postgraduate schools to provide more than a smattering of clinical instruction, which, after all, is of minor importance in the proper training of the real specialist as compared with the benefit derived from adequate instruction in the fundamental sciences, which can be acquired only in the laboratories of a university.

Finally, in 1912, I emphasized [3] the fact that the real specialist in medicine, just as in any field, is the man who by perseverence and concentration of effort succeeds in placing himself in touch with the advanced line of work, where he is able to see and to attack the various unsolved problems in his particular field: that the specialties are no place for the dilettant in medicine or for the unsuccessful general practitioner. I pointed out the analogy between the work of the postgraduate schools in training specialists and that of the existing proprietary medical schools in training general practitioners, and insisted that the proper place for both of these fields of instruction was in a properly equipped department of medicine of a university.

Since these articles were written, we have seen the passing of the proprietary medical school and the taking over of undergraduate medical instruction by the university, where it rightfully belonged. I believe that we are now about to see the passing of the postgraduate school as an institution for training men practicing the medical specialties. Already the universities are reaching out into this field, and it should not be long before we shall see the preparation for the medical specialties put on the basis of real graduate instruction in the university department of medicine. When this is accomplished there will be less effort made to ladle out to these students medical facts in courses devised for this purpose. The aim will be rather to lead the student to acquire knowledge of facts by his own observation and by reading. Courses of instruction aiming to drill the student in the established facts in medicine are always superficial. It is not so much the number of facts that the physician is able to acquire in his preparation as a specialist that matters. It is rather the training to investigate these facts that is of greatest value. It is right here that postgraduate instruction in this country and abroad has failed signally in the preparation for special practice. Physicians who have relied on the taking of such courses for their preparation have too often completed this instruction with the belief that they have acquired a knowledge of the important things in otolaryngology, whereas they have missed entirely the most important element in the proper training of the specialist, namely, the training, and the desire inspired by the training, for investigating these facts. Few of all the men who in the past have filled our postgraduate medical schools and have crowded the courses offered for specialists abroad have ever become contributors to the advancement of our specialty.

122 South Michigan Avenue.

2. Shambaugh, G. E.: Post-Graduate Instruction in Oto-Laryngology, Laryngoscope, June, 1909.
3. Shambaugh, G. E.: The Specialist in Medicine, J. A. M. A. 58: 1827-1829 (June 15) 1912.

## A COMPARISON OF METHODS FOR DETERMINING THYROTOXICOSIS *

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The observations which form the basis of this paper were made during the last eight months, beginning July 1, 1919, and were prompted by a desire to compare, particularly, the epinephrin chlorid test, as described by Goetsch, with basal metabolism determinations, as advocated by Benedict, Du Bois and others, in relation to certain clinical and pathologic observations.

The questions which presented themselves were: (1) the clinical condition of the patient, as determined by a standard, carefully planned method of history taking and examination; (2) the response to the epinephrin chlorid test; (3) the basal metabolic rate as determined by oxygen consumption; (4) the pathology of the thyroid after operative removal, and (5) the clinical result of operation.

For purposes of accumulating clinical data, a special thyroid sheet was utilized. The epinephrin chlorid test as described by Goetsch was applied as we have been accustomed to apply it for the last three years. The basal metabolism was determined by utilizing the Benedict portable apparatus, the precautions advocated by Benedict and Carpenter being strictly observed. Only oxygen determinations were made in most instances. Dr. C. W. Webb operated on those patients that required operation. The pathologic examinations were made by Dr. W. S. Thomas.

The probable hyperthyroid cases coming under observation between July 1, 1919, and Jan. 1, 1920, numbered fifty. Among these were twenty-nine patients for whom operative treatment was thought to be indicated. The other twenty-one composed a group made up of patients for whom measures other than operative were employed. There were no very active cases in this group, and they will receive no further consideration at this time. From the clinical point of view the operative group comprised two main types: first, the severely toxic cases; all, on whom it was thought safe to try the test, showing markedly positive epinephrin chlorid reactions, and increased metabolic rate, varying from 20 per cent. to 85 per cent., and clinical evidences too obvious to be by any possibility mistaken; and second, a type showing symptoms milder in degree and without exophthalmos. The second type responded positively to the epinephrin chlorid test in varying degrees, but showed a metabolic rate which was low, or not increased above the limits now accepted as normal.

The last statement will bear reiteration, for on it the reason for the presentation of this report rests. We encountered patients with varying degrees of thyroid enlargement, who were incapacitated for ordinary activities over periods of very considerable duration, whose symptoms suggested thyrotoxicosis, who gave a positive response to the epinephrin chlorid test, but who had normal metabolic rates. The problem was this: Would operation in such cases be justifiable? Basing our decision on a rather large number of past observations on patients who seemed to be similar in type, but who had been examined before we were able to determine the metabolic rate, and who had shown

* Read before the Buffalo Academy of Medicine, Jan. 14, 1920.

very satisfactory postoperative results, we advised operation in certain of these cases.

Considering, on the one hand, the excellent work of Du Bois and others on metabolism in hyperthyroidism, and, on the other hand, the now popular acceptance of an increase in metabolic rate as determinable by the ordinary methods as the sine qua non of toxic thyroid states, and especially considering its apparent acceptance by the U. S. Army as a criterion, it seems a matter of importance to attempt to discover whether or not so general a conclusion is in fact fully justified. Leaving aside the question of specificity of functional tests, there is a rather general agreement that toxic thyroid states when marked in degree produce quite definite clinical pictures and give definite and constant responses to estimations of metabolic rate, and, in most instances also to the epinephrin chlorid test. But it is not at all generally conceded that there is a rather large group of patients who are in a definitely impaired physical and nervous condition, who, because of a toxic state, of probable thyroid origin, are in need of positive medical or surgical aid, and yet whose metabolic rate is not increased.

Among the thyroid patients that were observed in the period stated and that came to operation, there were five active exophthalmic cases—one carcinoma of the thyroid; one chronic thyroiditis; and three markedly toxic adenomas; the remaining nineteen patients, not exophthalmic, on whom operation was performed, were thought to be showing varying degrees of toxicity, but did not show increase in metabolic rate. From this point our discussion is limited to these nineteen.

### CLASSIFICATION OF CASES

Prior to discussing with Dr. Thomas the pathologic picture in these cases, I arranged them clinically in two subgroups: the first containing the patients who were thought likely to show fairly positive pathologic evidence of overactivity; the second, those that seemed less toxic. After pathologic examination, one case thought clinically to be moderately active, failed to show on section much corroborative evidence, and two of the less active cases showed evidence on section which quite paralleled the evidence in some of the cases that were clinically more active. Possible ground for errors in classifying these three cases may be found in the fact that the patient who was thought to show clinically moderately active thyroid disturbance, associated with tremor and cardiovascular irritability with intermittent palpitation and tachycardia, was a young, rather frail woman, weighing only 80 pounds, and having a moderate sized goiter which showed on section simple, diffuse hypertrophy. In this case overabundance of not especially overactive thyroid tissue may, in so frail a subject, have produced symptoms out of proportion to the apparent pathologic condition. Of the other two patients whose glands appeared on section rather more active than the clinical picture would indicate; one was a farmer's wife, weighing 209 pounds, whose history indicated rather short duration of the thyrotoxicosis; the other was a young woman who had been leading a life of quiet invalidism for three years, a state which, in the absence of thyroid crises, may have tended to a reduction of her symptoms. These three patients showed definite postoperative improvement. Of the other five patients belonging to the second subgroup, that is, the clinically least active cases in which operation was performed, four, on section, presented the appearance of simple diffuse hypertrophy, and one that of colloid goiter.

The eleven remaining cases of the nineteen under discussion constitute a subgroup of special interest, in that they appeared to be definitely thyrotoxic, gave positive response to the epinephrin chlorid test, showed basal metabolism rates within normal limits, were with one exception very definitely benefited by operation, and showed on section glands that were thought to be compatible with the theory of thyrotoxicosis. The histopathology of the thyroid has not reached a state of much certainty, but the glands represented in these eleven cases probably all belong under one or another of the types of adenomas as described by Goetsch, Simpson and others.

We are not now concerned with the selection of types of therapy, but have chosen to refer only to patients that came to operation because this is the only class of patients available for combined observations of the type under consideration.

### FACTORS OF ETIOLOGIC SIGNIFICANCE

To refer in a little more detail to the eleven cases which constitute the subgroup on which our conclusions actually rest, factors which may have had some direct or indirect etiologic significance were: family history, 8; nervous strain, 4; nervous shock, 0; infection, 9; adolescence, 3; pregnancy, 4. Most of these patients were from western New York, Ohio and Pennsylvania.

The symptoms were thus distributed: nervousness, 11 (nervous hypertension, 6; depression with nervous hypertension, 5); tremor, 6; dyspnea, or dyspnea on slight exertion, 5; palpitation, 10; tachycardia, 9; loss of strength, 9; vomiting, 0; diarrhea, 0; insomnia, 5; free perspiration, 6; edema (feet and ankles), 3; headache, 8; vertigo, 5; generally increased pigmentation of the skin, especially of the forearms, 1; weight loss (moderate), 5; exophthalmos, 0; eye grounds negative, 11; vocal cords negative, 11; tonsils infected, 9; peridental infection, 3; goiter, 10; definite nodules felt in 4. The known onset varied from a few months to twenty years. The goiter had recently increased in size in 8; there was no dysphagia; slight pressure symptoms were noted in 3; no organic heart lesion was discovered in any case.

The epinephrin chlorid test was clear, positive and of moderate degree in 6 cases; clear, positive and of more marked degree in 5. Basal metabolism results in the eleven cases were: 11 per cent., high; 6 per cent., low; 5 per cent., high; 8 per cent., high; 8 per cent. high; 20 per cent., low; 4½ per cent., low; 14 per cent., low; 2 per cent., high; 7 per cent., high and one, flat normal. Readings not varying more than 15 per cent. from the normal are regarded as normal.

On section, the eleven thyroids all showed definite abnormalities of a type suggesting functional overactivity.

I realize that I am treading on somewhat treacherous ground in making this statement in view of the present uncertain state of knowledge of thyroid histopathology. The pathologist cannot be expected to draw clinical deductions. It seems fair, however, to assume, in case one finds in a glandular organ, such as the thyroid, increase in the height and size of active cells and in cellular elements, with infolding of the walls of the acini and a decrease in colloid, provided these changes are sufficiently clear to any intelligent observer and sufficiently abundant, that the tissue in question is probably more active than is the case in normal tissue.

A further index, according to Cowdry, Goetsch and others, is furnished by the abundance of mitochondria in the cytoplasm of the functioning cells, mitochondria being small granular and rodlike bodies of characteristic staining reaction which are far more abundant in cells that give evidence of a high degree of activity of growth or function than in cells of low activity.

In the pathologic study of the group of eleven cases under discussion, the histologic picture of the type just mentioned was clearly present in all, though varying somewhat in degree.

As to clinical results following operation, I have reports from all eleven cases, and despite the fact that these patients were recently operated on, the longest interval since operation being eight months, and the shortest about six weeks, the reports, with one exception, are excellent. In this one instance, a recent case, there seems to be no marked improvement. This patient was sent to Dr. Webb for thyroid operation after six months' rest at Saranac. Her symptoms were marked nervous tension, sleeplessness and fatigue, with pronounced palpitation. The epinephrin chlorid test was made by Heise at Saranac and reported moderately positive; the gland, on section, showed definite hyperplasia with cells generally of high columnar type. This patient is of a definite psychasthenic type, and the present conditions of her life do not conduce at all to a good outcome. The other ten report progress of very positive character; the generally enthusiastic tone of the reports is noticeable. The symptoms specifically reported as relieved are: nervousness in 10; tremor in 4; palpitation in 10; strength loss in 4; headache in 5; insomnia in 5; excessive perspiration in 4; vertigo in 1, and weight loss in 4. Our letters of inquiry were general rather than in the form of a questionnaire, which would doubtless have brought more detailed information.

There can be no doubt, since the thorough work of Benedict and Carpenter, that the Benedict portable apparatus, when used with due regard for the various possibilities of error, furnishes an entirely satisfactory means for the measurement of oxygen consumption. Nothing occurred in the observations under discussion to raise a reasonable doubt as to the accuracy of the observations.

### THE EPINEPHRIN CHLORID TEST

The epinephrin chlorid test is rather generally conceded to be an indicator of hypersensitiveness of the sympathetic system, rather than to furnish specifically a measure of thyroid activity per se. On the other hand, it appears to be a fact that positive responses to this test are far more common in cases in which there is thyrotoxicosis than in other instances.

The injection of epinephrin chlorid solution in sufficent dose has been definitely shown to speed up metabolism, increase blood sugar, and produce slight evidence of acidosis, as is indicated in slight increase in acetone bodies in the blood and slight decrease of carbon dioxid combining power in the blood. Without quoting the detailed figures and remarks which appear in each test, it is a little difficult to classify the results of the Goetsch test clearly. No test is regarded as even mildly positive in which a rise of at least 10 points in pulse and in systolic pressure does not occur after the injection of 0.5 c.c. of 1 to 1,000 epinephrin chlorid solution, nor is a test regarded as positive unless there are clear cut subjective symptoms and tremor. With those requirements as the minimum, one may interpret approximately the terms moderately or markedly positive. The test is beyond question very striking in many instances and should be applied in all doubtful cases, not because it furnishes a criterion, but because it tends to stimulate closer study, and to offer aid in formulating a diagnosis.

In excitable persons we are accustomed to check up the test with injections of sterile water. Unfortunately, the personality of the examiner also needs consideration. Furthermore, observation of the rate of basal metabolism alone, as now estimated, should not be regarded as a sufficient criterion in determining the presence or absence of toxic states associated with the thyroid. The evidence thus obtained is of much value in estimating varying degrees of toxicity, but should receive only its proper emphasis, the complete study of the patient furnishing the only safe guide.

The epinephrin chlorid test is more sensitive and requires even greater safeguards than the estimation of oxygen consumption in many instances, and while one must not be misled to believe that no degree of thyrotoxicosis can be present unless there is increased metabolic rate, one must beware of accepting the belief that every patient responding positively to the epinephrin chlorid test requires radical thyroid treatment. No functional test yet described is pathognomonic.

Important as is the function of the thyroid in the regulation of metabolism, other factors must be taken into consideration before the picture can be regarded as complete.

### SUMMARY

Observation of a selected group of eleven patients appears to present sufficient evidence to warrant the diagnosis of thyrotoxicosis, as determined by clinical observation, pathologic study of the portions of the thyroids removed at operation, and postoperative progress. These patients before operation but after rest responded positively to the epinephrin chlorid test and negatively to estimations of basal metabolic rate. They were all of the nonexophthalmic (adenomatous) type; more toxic cases of the exophthalmic and adenomatous types observed during the same period showed increased metabolic rates ranging from 20 per cent. to 85 per cent. above the normal base line.

### CONCLUSION

Complete methods of examination with special attention to the possibility of errors in case of psychoneurotic patients should furnish the basis for diagnosis, rather than reliance on any functional test, though the functional tests are of great value in the compilation of evidence, especially in relation to the degree of toxicity.

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**The Needs of the Children of Porto Rico and the Virgin Islands.**—In his seventh annual report, the chief of the children's bureau, U. S. Department of Labor, urges that the needs of the children of our island possessions, be made a subject for official investigation. In Porto Rico, there are "about 10,000 homeless children under 12 years of age, who live by whatever means they are able, many of them begging or stealing, and most of them having no permanent lodging place, sleeping at night in boxes or on doorsteps, or wherever they happen to find a lodging place secure from the rain. These children are, for the most part, deserted and abandoned children of illegitimate parentage, or orphan children whose parents have left no provision for their care and education, and they constitute a fertile soil for the implanting of criminal tendencies and are ready material for older people of criminal habits."

## POISONING BY ALCOHOL "DENATURED" WITH NITROBENZENE *

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During the last Christmas holiday season a large number of dark, ghastly looking patients who had been drinking "denatured alcohol" were brought into the City Hospital within a few days. As a rule they were unconscious. The dark, almost black, discoloration was limited mainly to the extremities, face and neck, including a fringe of the upper portion of the chest. In other words, the richly vascular, pigmented and dependent portions of the body were principally involved. The color was not the typical blue of ordinary cyanosis, but rather a livid, brown-black or nearly black, suggesting the presence of methemoglobin in the blood. Except for the deep narcosis and a moderately rapid pulse, the patients were otherwise practically normal. No other circulatory and no respiratory disturbances were detectable. After a deep sleep of about twenty-four hours, the patients left the hospital fully recovered. They did not seem to suffer, and there were no fatalities.

### OBSERVATIONS

*Blood.*—This appeared rather chocolate colored. Spectroscopic examination revealed the presence of two typical bands of oxyhemoglobin, and a single band in the red. On reduction by ammonium sulphid, these were replaced by the broad band of reduced hemoglobin, the band in the red portion of the spectrum disappeared, indicating the presence of methemoglobin.

*Analysis of the "Alcohol."*—A pint of the beverage ingested by the patients was analyzed. Qualitatively, the presence of ethyl alcohol was established by the dichromate-sulphuric acid test and the refractometer. Methyl alcohol was absent, as indicated by the refractometer. Quantitative estimation of formaldehyd was made by the phloroglucin reagent [1] after oxidation with a copper spiral. Free formaldehyd was present in the alcohol to the extent of about 1:500,000, according to the phloroglucin test. Strong positive tests for nitrobenzene were obtained by means of the zinc dust-acetic acid hypochlorite test, and also the indophenol reaction. The odor of nitrobenzene was distinct, resembling the odor of common shoe dyes. Quantitatively, ethyl alcohol was present to the extent of 61 per cent. (by refractometer). For these refractometer estimations we are indebted to Mr. Percy Tarver of the City Health Laboratory.

### COMMENT

The results of our examination indicate that the peculiar dark (black) discoloration in these patients was due to methemoglobinemia arising from the ingestion of nitrobenzene in the "denatured" alcohol. The narcosis was, of course, due to alcohol. The relatively low concentration of formaldehyd found is negligible so far as toxicity is concerned.

The symptoms observed are practically the same as those described by Stifel [2] in soldiers who were poisoned by the use of a shoe dye containing nitrobenzene. As reported by Stifel, recovery from nitrobenzene poisoning is prompt and spontaneous. In other words, this "denaturizing" agent is relatively harmless. The beverage so denatured is not rendered althogether unpleasant, either. However, denaturization by nitrobenzene is illegitimate, the law requiring either of the following with certain concentration limits; mercuric chlorid, hydrochloric acid, formaldehyd, phenol and tannic acid, alum, formaldehyd and camphor, and liquor cresolis compositus.

Chronic poisoning from the prolonged use of alcohol containing nitrobenzene might be different from the acute poisoning here reported. Tolerance even to small doses of nitrobenzene is not known to exist, and if it is possible, the cyanosis and methemoglobinemia might still exist, though probably of low grade. Digestive disturbances, visceral degenerations, etc., arising therefrom are conceivable. These might confuse the diagnosis of minor maladies. Physicians, therefore, should bear in mind the rôle of uncommon and relatively harmless, though active poisons, which may be added to or used in alcoholic beverages for deceptive purposes.

### SUMMARY AND CONCLUSION

Acute poisoning by alcohol "denatured" with nitrobenzene, and containing a low concentration of formaldehyd, occurred in a number of cases. Although apparently low grade and nonfatal, there is considerable potential harm from such beverages when used over long periods, confusing at the same time the diagnosis of minor maladies.

* From the Medical Clinic, City Hospital and the Pharmacological Laboratory, Western Reserve University School of Medicine.

1. Hanzlik, P. J., and Collins, R. J.: J. Biol. Chem. **25**: 231 (June) 1916.
2. Stifel, R. E.: Methemoglobinemia Due to Poisoning by Shoe Dye, J. A. M. A. **72**: 395 (Feb. 8) 1919.

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## FITS AND FALLACIES

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In the recent mobilization of the American Army, the number of rejections solely for nervous and mental disease rose early in places to 5 per cent. of the total number. Of the first 13,481 of such rejections, 12.8 per cent. were for epilepsy. A simple calculation based on these figures puts the incidence of epilepsy among the young men examined at one in 150. Such incidence seems an exaggeration of the frequency of epilepsy in our population, but most similar rough indications point to a frequency sufficient to establish a more pressing claim on general medical attention.

Certainly great numbers of epileptics come to the Neurological Institute from far and near. Three hundred and eighty-eight new patients were added to our lists last year. There is a great variety of conceptions among them regarding their ailment, many of which are quite ridiculous. These conceptions correspond in some measure to past treatment, which varies all the way from the merely futile and ineffective, to the positively harmful and dangerous. Epileptics are dieted, purged, disinfected, analyzed, circumcised and sterilized; women are deprived of their pelvic apparatus; bowels are taken away, heads broken into—every conceivable sort of activity is being indulged in and advocated for the cure of epilepsy.

This does not so much impute discredit to the physician in charge, whose attitude toward these patients is practically always one of sympathy and

sincere well meaning, as it does reflect the confusion of ideas on the subject with which the medical press of the day abounds. Every one writes about epilepsy, and each explains it according to his light; and as it is possible for a man to be wrong in his main argument and yet deliver fifty truths in arriving at a false conclusion, unsound reasoning and invalid argumentation accordingly spread apace. So today there is a veritable chaos of conflicting views regarding the cause and treatment of epilepsy, but it can be easily shown that a fallacy forms the basis for most of the unique current cures.

This paper is an attempt, by a brief consideration of some of the more popular misconceptions, to clear up somewhat the confusion concerning the very interesting but much abused problem of convulsions which must surround the general practitioner under whose care most epileptics are, excepting those in the big cities.

## HEAD SURGERY

Whether from a real belief in the efficacy of the procedure, or whether merely from a feeling of helplessness combined with a desire to try something, there has been in the past much ill-advised and indiscriminate surgery performed on the heads of epileptics. Such operations are performed chiefly in an effort to remove a source of irritation. This implies a likelihood of finding in epileptics some gross lesion, and a possibility of eradicating it when found. A consideration of the character and frequency of gross brain lesions found in the brains of epileptics is pertinent.

GROSS CHANGES AT NECROPSY IN SEVENTY-SIX CASES OF EPILEPSY *

| | No. |
|---|---|
| Hemiatrophy | 16 |
| Cerebral softening | 10 |
| Hemorrhages (various) | 10 |
| Pachymeningitis | 9 |
| Hydrops of the subarachnoid space | 8 |
| General congestion | 8 |
| Cornu ammonis sclerosis | 7 |
| Dilated ventricles | 7 |
| Cloudy arachnoid | 5 |
| Calvarium thick | 4 |
| Calvarium thin | 3 |
| Tumor | 4 |
| Hydrocephalus | 4 |
| Flattening of the convolutions | 4 |
| Pituitary large | 2 |
| Pituitary small | 3 |
| Tuberculous meningitis | 2 |
| Leptomeningitis | 2 |
| Arteriosclerosis | 2 |
| Cystic choroids | 2 |
| Fractured skull | 2 |
| Trephined | 1 |
| Osteoma | 1 |

* From the twenty-fifth annual report of Craig Colony for Epileptics, 1919.

In 845 necropsies at Craig Colony on the brains of epileptics, gross lesions are reported present in 60 per cent. In the 205 necropsies at the Monson State Hospital for epileptics, the percentage is almost the same—61.5 per cent.

To indicate the character of the lesions encountered, and included in these percentages, a list of the 1919 series of necropsies at Craig Colony is shown in the accompanying tabulation. It is a fact worth remarking that forty out of every 100 epileptics show no gross deviation from the normal even when gone over in the comprehensive manner that the table indicates. However, to accept even these figures as an indication of the prevalence of gross brain lesions among the great mass of sane and unconfined epileptics is for several reasons a great error.

In institutions of this kind, the disorder is seen in its severest form and in the worst type of individual. For instance, 128,725 convulsions were reported to have occurred at Craig Colony among the 1,700 epileptics treated there in the year ending June 30, 1917. This indicates for each patient an average of seventy-five. The records of the Monson State Hospital for Epileptics show that 90 per cent. of the necropsies were on the victims of mental disorder. In fact, all but one of the brains in their series of 116 reported abnormal were from patients that were feebleminded or demented.

Of course, these institutions do not assert that these gross lesions are the cause of the disorder. As to their significance, the statement is made, in a study of this point from the Monson State Hospital, that, "like the manifestations of the disease itself, the lesions are often of a spectacular character, yet it is most difficult to state whether these lesions are the cause or the effect of the convulsions, or whether they are in any way correlatable with epilepsy."

In this connection it might also be added, regarding the significance of gross brain lesions to the cause of epilepsy, that, in the recent review of a large series of brain tumor cases at the Neurological Institute, fifty-two out of fifty-three never exhibited generalized epileptiform convulsions at any time during the course of the disease.

However, without further discussion as to whether the lesions tabulated bear any causative significance so far as the occurrence of convulsions is concerned, let us view the list of lesions included here, merely from the standpoint of a surgeon hoping to cure epilepsy by operating on the head. It is apparent immediately why observers at Craig Colony, despite the great number of gross lesions that they have enumerated, have been impressed by the fact that it is rare to find at necropsy a lesion which might have been benefited by operation during life. Not only this, but necropsies there on patients operated on during life showed almost constantly postoperative adhesions of the meninges to bone or cortex. Surgeons who propose operating on the heads of epileptics might do well to read Munson's [1] paper on this point.

The fallacy of operating on the heads of epileptics, therefore, in an effort to find and remove some suspected focus of irritation, is demonstrated by these few points concerning gross brain lesions, which may be thus summarized: 1. It is an error to assume that gross brain lesions exist in or about the brain in the average unconfined epileptic in any percentage of cases approximating that given out by institutions for the epileptic, such as Craig Colony and the Monson State Hospital. 2. It is not proved or even intimated that the gross brain lesions enumerated in the statistics of these institutions are primary causes of the disorder. 3. The character of the gross brain lesions described precludes practically always the possibility of successful operative interference. 4. Necropsies on patients operated on showed almost constantly postoperative adhesions. 5. The results of operation, to say the least, are unsatisfactory.

## BRAIN TUMOR

Some operations are undertaken, too, on epileptics in the belief that a series of abortive or localized

1. Munson, J. F.: End-Results of Head Surgery in Epilepsy, New York State J. M. 12:638, 1912.

attacks must surely be caused by a tumor or other gross disease of the motor cortex. Apropos of this point there are two facts concerning epilepsy which, if more generally appreciated, would save many epileptics from a useless operation on the head: 1. The incomplete or abortive seizures which occur irregularly in the intervals between the major attacks of epilepsy are the complete seizures reduced to their initial symptoms. 2. However diversified these attacks may be, they are always or nearly always similar in the same subject.

Repeated incomplete convulsions, therefore, since they always affect the same limb, appear almost compellingly suggestive of circumscribed disease of the motor cortex in the area which represents this limb. This is especially true when paralysis supervenes from temporary exhaustion of the cortical elements by frequent attacks.

A patient presenting these conditions came to the Neurological Institute, Oct. 1, 1919. The localized attacks were so frequent and severe that a motor paralysis of the right hand and forearm occurred, accompanied by a complete loss of joint sensation at the wrist and at all joints below. Although he did not have general signs of brain tumor, he had been in imminent danger of operation on account of the persuasive evidence of the paralysis. Simple sedative treatment was commenced on the day the number of attacks had mounted to fifty-four (his worst day); and it decreased the number of convulsions at once. A week later they were arrested completely. The paralyzed hand then recovered slowly but entirely, so that two weeks after the convulsions had ceased, even the dexterity of the fingers in the formerly paralyzed hand equaled that of the unaffected hand.

This phenomenon occurred in a case of ordinary epilepsy which had got rather out of hand just before coming to the institute. Ten grains of sodium bromid, three times a day, with attention to some other details has completely controlled all attacks to this date.

Localized attacks are not infrequent in the course of ordinary epilepsy. In the absence of the well known signs of brain tumor, a history of having had generalized epileptiform convulsions determines the case to be in all probability one of ordinary epilepsy; for, whereas a generalized epileptiform attack may occur as an early sign of brain tumor, it has been shown recently by the study of a large series of cases at the Neurological Institute that this happens only rarely, once in every fifty-three cases.

It must be remembered that a loss of consciousness may occasionally precede, accompany or follow some one of the strictly one-sided attacks, being caused by a brain tumor in the region of the motor cortex. If the limbs on the other side of the body do not also become convulsed, mere loss of consciousness does not make the attack a *general* convulsion, and it is very important that it be differentiated from one because a localized attack with loss of consciousness has the same significance and localizing value as one in which consciousness is preserved.

### HEAD INJURY

There is a more or less prevalent opinion that epilepsy is one of the likely outcomes of injury to the head. Statistics prove that this has no basis in fact. In the Franco-Prussian War, as a result of 8,985 nonfatal head injuries, only forty-six cases of epilepsy developed, that is, about one in 200, or perhaps a little more frequently than it occurs in the civil population.

This might be considered a suggestion that generalized epileptiform convulsions will be instituted by head injury only in that individual whose unstable nervous system predisposes him to convulsions. Perhaps such a report would read more significantly if put thus: Of 8,985 persons receiving nonfatal head injuries, forty-six proved to be persons possessing a more or less generalized cortical instability, as a tendency to recurrent convulsions became manifest in them.

### THE GASTRO-INTESTINAL TRACT

So much emphasis has been placed on abnormalities of the gastro-intestinal tract, and the relation of the superimposed condition of chronic intestinal stasis to convulsive seizures, that as one writer humorously says, it has almost appeared necessary to assume that every constipated person is a potential epileptic. The fact remains, however, that most constipated persons are not, and the absurdity of such an idea should become manifest on its mere statement.

However, not long ago a theory, with gastro-intestinal abnormalities as its basis, was evolved to explain epilepsy. Elaborate and unique details of the mechanism of a convulsion were described in the light of this theory. The cure advocated was a drastic surgical operation—a removal of the large bowel. As might be expected, very ungratifying results, to say the least, followed in the wake of an all too widespread trial of this treatment. The facts on which the cure was advocated were found later to be incorrect, and the whole explanation tumbled and was withdrawn by its exponent.

However, the end of it is not yet. For some reason the operation continues in sporadic popularity. This is not because anybody now believes in the existence of the particular organism described, pictured and purported to be the germ of epilepsy. It can not be because any one still believes that bands, adhesions, etc., in the bowel, cause absorption of bacteria into the blood stream. The persistence of the treatment probably has no better nor other excuse than that all too common fallacy, the belief that any accompanying physiologic irregularity in an epileptic must surely be the cause of the convulsions. And as there were published, with the series of articles advocating this operation for epileptics, numerous and impressive roentgenograms of the intestine in various states of stasis and abnormality, I think that perhaps a lingering memory of these must be exercising an unconscious influence on the therapeutics of the disorder.

Because it is a highly dangerous procedure and its results so futile, it seems worth while to give a moment's further consideration to the basic premise on which the support of such treatment must necessarily depend.

Are gastro-intestinal abnormalities present in epilepsy? In order to study this question, the Monson State Hospital for Epileptics reviewed the protocols of its 280 necropsies on epileptics. Intestinal adhesions and peritoneal bands were present in 17.8 per cent of the cases. By the same process with 775 necropsies at the Boston City Hospital, 18.3 per cent., a slightly larger percentage, was arrived at for nonepileptics! When each portion of the gastro-intestinal tract was compared separately, this relative sameness was found to apply throughout.

The treatment is a product of fallacious reasoning from erroneous premises, and it becomes obvious that convulsions are no indication for surgical exploits on the bowel. Such cures for epilepsy deserve nothing but the severest condemnation.

### THE PSYCHOGENIC THEORY

The psychogenic theory for epilepsy came into being about five years ago when the bubble, as it seems to me, of freudian analysis, on which it was based, was blown to its fullest.

Some diffidence in making a postmortem statement regarding a theory might be expected from one who for a time gave it some credence. But any details concerning it seem unnecessary when it is considered that there must now be few who believe that a convulsion is a direct and purposeful attempt of the mind to supplant the pain of an unpleasant reality, with what pleasure might be anticipated, from a temporary and imaginary resumption of prenatal existence.

There may be, however, many who believe that in a more general way psychic influences, such as fright, grief and worry, are potent causes of epilepsy. Here we must differentiate between a primary direct cause and a mere inciting factor of the first attack in predisposed persons. Gowers, who wrote years ago that "as a direct excitant of the first attack intense sudden alarm takes the first place," also made it clear that he considered such excitant but the spark that lights up the fit phenomenon in a person in whom there already exists a more or less generalized cortical instability. That apart from the view intimated by this statement, mind or emotion even in a more general way as expressed by fright, grief or worry can be ever considered a primary causative factor of epilepsy is put in question by the overwhelming contrary evidence supplied by the late war, which proved a great laboratory for the testing of such ideas as this, for in the war all disturbing psychic influences were present in tremendous force. Epilepsy, however, did not often occur. In fact, it was actually rare at the front in the American Army from which recruiting officers had previously excluded with fair diligence all men having a history of convulsions.

When the great frequency of the war neuroses is thought of, in comparison to the relative infrequency of war-evoked epilepsy, psychic shock and strain pale into insignificance as a cause for convulsions in a normal person.

Psychotherapeutic treatment, no matter of what kind, proves by itself absolutely ineffectual as a cure for epilepsy. Any such plan of treatment, if it at the same time denies the unstable epileptic cortex the benefit that certain remedies have been proved to bestow, is wrong, and in my opinion negligent.

### THE PITUITARY GLAND

The pituitary gland possesses a strange proclivity to evoke suspicion toward itself as being the source of uncomprehended ailments. Although already much maligned, this is probably the only reason for its first becoming accused of having to do with epilepsy. Pituitary extract as a remedy for epilepsy seems thus to have originated on a basis of pure empiricism, although a few feeble facts have been marshaled in its support.

Chief of these is that an abnormality in the sella turcica is found by the roentgen ray in an occasional epileptic. It is hardly necessary to say that misinterpretations and fallacies are responsible for many of the reports of deformed, closed and small sella turcicas.

Then it must be remembered that abnormality in size of the sella turcica by no means implies abnormality in the size of the pituitary gland or abnormality in its functioning.

Could the pituitary gland be proved enlarged or undersized in epileptics there would be more excuse for the effort to link up pituitary dysfunction with the cause of epilepsy. However, statistics show that abnormality in size of the pituitary gland occurs but rarely in an epileptic. In the last two years, 203 brains of epileptics were examined at Craig Colony, and in only five could the pituitary gland be considered either larger or smaller than normal. Then, too, there are certain well marked clinical syndromes which occur in dysfunction and disease of the pituitary gland. Convulsions have never been mentioned as a part of these syndromes. In a recent review of 160 brain tumor cases at the Neurological Institute there were eighteen in which the tumor definitely involved the pituitary gland. In not one of these cases did convulsive phenomena of any kind occur.

Nevertheless, pituitary extract for epilepsy has ardent advocates. Not long ago one of these advocates[2] presented good evidence of its comparative futility, even in epileptics considered to be showing definite indications of pituitary disorder, although unintentionally, as the paper was written in a laudatory endeavor. The study is based on 200 cases of epilepsy, all but twenty-eight of which are at once excluded as not being suitable for the treatment. Its uselessness is thereby at once exclaimed for 86 per cent. of all epileptics! Pituitary gland was fed to the remainder, and as most of these had been taking bromid previously, "this was allowed to be continued." The cures at the author's own rating are four. For the series this would mean one in fifty; for the selected twenty-eight considered to have pituitary disorder, one in seven. The latter result is about half as good with both bromid and pituitary extract as one would expect to obtain with small doses of bromid alone according to such well known statistical tables as that published by Aldren Turner, whose patients completely cured with small doses of bromid alone were 23.5 per cent., or almost one in four.

And yet such reports as the one considered here, to the mere glance of the hurried reader, often seem impressive, and it is not unlikely that this one alone greatly increased the consumption of pituitary extract.

### ALCOHOL

Recently it has been authoritatively stated that alcohol as an etiologic factor in the production of insanity has been overrated. There is no duobt of this being true as regards epilepsy. Of course, pathologic alcoholism in the ancestors of epileptics is common. But, like a history of insanity, it is chiefly important merely as evidence that in these ancestors a neuropathic defect existed. That is, alcoholism is a sign of something, but by no means necessarily a cause for anything. When an estimation of the proper relation of alcohol to epilepsy is involved, this difference must be appreciated.

2. Tucker, B. R.: Rôle of Pituitary Gland in Epilepsy, Arch. Neurol. & Psychiat. 2: 192 (Aug.) 1919.

For instance, Dejerine asserts that in France one half of the cases of epilepsy among children are due to alcoholic parents. Now, whereas the defect in the nervous system of the parents is perhaps unquestionably responsible for the defect in the nervous system of the child, an assumption that to the alcohol imbibed by the parents is due the epilepsy in the child is far from justified. Alcohol cannot be considered to father epilepsy merely because a man addicted to alcohol fathers a child addicted to convulsions. Such is very obviously a fallacious deduction. However, it is possible that excessive alcoholism in a pregnant woman may interfere with the proper development of the nervous system of the embryo, and so in some instances epilepsy may seem quite properly attributable to alcohol. But otherwise, alcoholism as a direct primary cause of epilepsy has not been proved. There are many who consider that as such it has been misapprehended. They believe the so-called rum-fits to be indicative merely of a dormant epilepsy. Indeed, when we compare the frequency of acute alcoholism with the infrequency of rum-fits, this view does seem plausible.

A study of the relation of alcohol to convulsions was undertaken at the Monson State Hospital for Epileptics. As a result of this study, the statement was made that "in a perfectly stable and well adjusted nervous system, alcohol per se is not sufficient to produce convulsions."

It is not my intention to underestimate the importance of alcoholism in the parents as an evidence of neuropathic stock, or to underestimate the importance of alcoholic intoxication as an irritant to sensitively balanced nervous systems, or to disregard the effect of alcoholic poisoning on the nervous system of the developing embryo. It is my object merely to call attention to the fallacy of assuming that because an epileptic drinks, or his parents drank, such facts make sufficient evidence for generalizations concerning the cause of epilepsy.

### EYESTRAIN

Eyestrain may hardly seem worth mentioning, but it is believed by some to be the cause of epilepsy. Indeed, the epileptic eye has been spoken of.

At the Monson State Hospital for Epileptics, "Eyes are marked by no distinguishing feature." Hodskins and Moore[3] obtain no positive findings. In fact, evidence was produced to prove that eyestrain was not of any importance as a primary etiologic factor in epilepsy.

### CONCLUSION

Perhaps the best and most practical view for the general practitioner to adopt is that epilepsy means a tendency to recurrent convulsions, that such a tendency implies a more or less generalized cortical instability, and that epilepsy is therefore not properly due to any cause outside the brain.

Then, too, it is not an incurable disorder. In fact, treatment in accord with the view just mentioned has for years proved more or less effectual when well carried out. For instance, William Aldren Turner of the National Hospital for the Paralyzed and Epileptic in London, an indisputably eminent authority on this subject, gave some figures in 1910 which might be considered accurate proof of this. He published statistics of a large series of cases, many observed for as long as twenty-two years, in which small doses of bromid alone had cured entirely 23.5 per cent., or about one epileptic in every four, and greatly benefited another 50 per cent.

At the Neurological Institute we find that practically all epileptics of the class who live at home and are able to visit the hospital derive great benefit from treatment. A cerebral sedative is used almost always, and this is combined with what other remedies or treatment a study of their physiologic processes and particular difficulties suggests.

20 West Fiftieth Street.

3. Hodskins and Moore: The Relation of Eyestrain to Epilepsy, J. Ophth. & Oto-Laryngol. 2: 169-175, 1908.

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## EPIDEMIC INFLUENZA AT THE COOK COUNTY HOSPITAL *

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True to the history of pandemics of influenza of the nineteenth century prepared by Leichtenstern,[1] the great outbreak of last year has been followed by epidemic outbreaks chiefly in the larger cities. So far as conditions at Cook County Hospital obtain, Chicago was invaded early in January, 1920, and during the five weeks ending February 15, 1,128 patients were admitted to this institution. There were 264 deaths among this number, a mortality of 23.4 per cent., as compared to the rate of 31 per cent. at this hospital in the recent pandemic.

The crest of the epidemic (Chart 1) as indicated by admission to this hospital was reached on January 20, after a duration of about ten days. The secondary rise both in admissions and deaths occurred about January 30. This corresponds to the marked increase in the number of patients admitted with pneumonia.

Because of the rather limited hospital facilities, instructions were issued to the examining physicians to accept for hospital care only those patients that were really ill. With such a rule in effect, the distribution of the first 839 patients as shown by the diagnosis on admission to the ward was: influenza, 503, or 60.7 per cent., of which forty-six, or 9.1 per cent., developed pneumonia during their stay in the hospital; influenzal pneumonia on admission to the hospital, 326, or 39.3 per cent. Of the 326 patients admitted with pneumonia, 205 died, a mortality rate of 62.9 per cent. The patients who developed pneumonia in the hospital include, among others, children, patients in obstetric wards, and patients suffering from chronic diseases. In this group of forty-six cases there were twenty-six deaths, a mortality rate of 47.8 per cent.

The unfavorable effect of pregnancy on the prognosis as noted by observers in previous epidemics is again brought out. Of the forty-eight women admitted to the obstetric ward with influenza, twenty-four died, a mortality rate of 50 per cent.

There were two age periods of greatest number of admissions (Chart 2): one from birth to 10 years, and one between the twentieth and fortieth years.

Of the adult admissions, 59.8 per cent. were males and 40.2 per cent. were females, a relationship prac-

* From the Laboratory of the Cook County Hospital.

1. Leichtenstern, Otto: Influenza, Ed. 2, by George Sticker.

tically identical to the percentages of last year, 59.2 of males and 40.8 of females,[2] respectively.

### CLINICAL PICTURE

The clinical picture was in all essentials like that described during the previous outbreaks of the disease. The onset was abrupt, with the features of acute

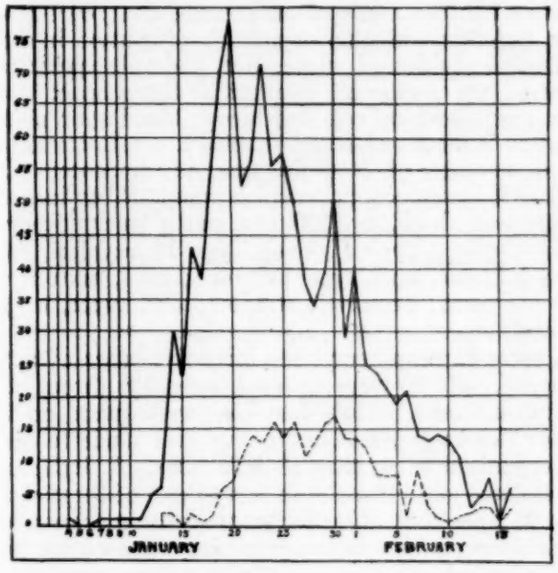


Chart 1.—Duration of the epidemic as shown by daily admissions (solid line) and deaths (broken line).

catarrhal fever. The prostration and debility were all out of proportion to the demonstrable pathologic changes. Among the common complaints were coryza, headache, retrobulbar pain, backache, chilly sensations, muscle pains and later cough which characteristically was productive of thick, greenish-yellow sputum. Gastro-intestinal symptoms were not infrequent and included nausea, vomiting, diarrhea and sometimes abdominal pain. Of the nervous symptoms noted, there were delirium, meningismus and rarely melancholia or dementia.

Physical examination revealed flushed face, injected conjunctivae, and erythematous rash of the face, neck and shoulders. The mucous membrane of the soft palate and pharynx was injected and sometimes presented petechial hemorrhages. The pulse rate was increased; the respirations ranged between 20 and 30 per minute, and the temperature from 101 to 104 F. Leukopenia was the rule, and the average leukocyte count of twenty-five influenza patients was 6,500. In uncomplicated cases the average stay in the hospital was seven days.

Pneumonia was the most serious complication. It is to be suspected in patients whose temperature remains high after the sixth or seventh day. The early chest findings were obscure. Later, patchy consolidation usually could be demonstrated. In the grave cases marked cyanosis of the patient was common. A moderate leukocytosis of from 12,000 to 16,000 was usually observed. Other common complications were empyema, otitis media, sinusitis, meningismus and jaundice.

### MORBID ANATOMY

The external appearance of the bodies of those who had died from influenzal pneumonia was characteristic. The postmortem lividity was extensive, involving the head, trunk and extremities. Not infrequently a bloody, frothy fluid exuded from the nostrils and mouth.

The tracheobronchial mucosa was generally reddened, and the small blood vessels were engorged. In their lumens, mucous, mucopurulent or hemorrhagic secretion was present. The tracheobronchial lymph glands were usually engorged with blood and were edematous.

Early in the disease, the lung involvement was chiefly lobular, with hemorrhagic, catarrhal or purulent exudate containing scarcely no fibrin. The surfaces made by cutting were mottled, firm and granular, with dark red congested areas of aerated lung tissue intervening. Large quantities of bloody fluid bathed the cut surfaces. Thick purulent material commonly oozed from the small bronchi. Serous or serosanguineous fluid was frequently found in the pleural cavities. Later in the course of the disease, the amount of fibrin increased and the exudate became gray and often purulent. Plastic pleuritis was not infrequent. It was noteworthy that at two necropsies, empyema was present with the pus between the mediastinal pleura and the hilum of the lung, while the lateral surface of the lung was adherent to the chest wall by fibrinous adhesions, causing obliteration of the pleural cavity. This finding accounted for the inability to aspirate pus on thoracentesis after empyema had been diagnosed in the ward.

The liver and kidneys were usually heavier than normal and were the seat of parenchymatous and fatty changes.

### TECHNIC OF BACTERIOLOGIC STUDIES

Beef infusion agar and broth were the two basic mediums used. The reaction was adjusted to neutrality to phenolphthalein before autoclaving. For cultivating *B. influenzae*,

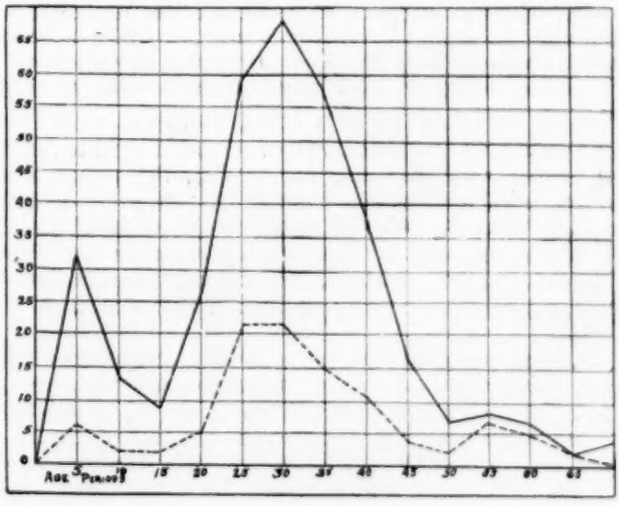

Chart 2.—The relationship of age to the number of admissions (solid line) and deaths (broken line) during the epidemic period.

the agar at 90 C. was enriched by the addition of 5 per cent. defibrinated horse blood. Plates were poured after this added blood had become a chocolate brown. These agar surfaces were inoculated from throat swabs and with the sputum of the patients studied. In the early studies, sputum was injected intraperitoneally into white mice, and plate cultures were made from the peritoneal exudate and from the heart blood of the mouse at necropsy. This was later discontinued when it became apparent that in practically all cases *B. influenzae* was demonstrable in direct cultures of the throat or sputum,

2. Keeton, R. W., and Cushman, A. B.: The Influenza Epidemic in Chicago, J. A. M. A. **71**: 1962-1967 (Dec. 14) 1918.

Well separated giant colonies of *B. influenzae* were usually to be found on these plates, and pure cultures could easily be recovered. The identification of *B. influenzae* rested on its cultural characteristics on the brown blood agar, and its failure to grow on hemoglobin-free agar, as well as its morphologic and staining characteristics.

For pneumococcus identification and typing, the mouse method was used, freshly collected sputum being employed. Red blood plate cultures were made from the peritoneal exudate and from the heart blood of the mouse at necropsy; and single colonies of pneumococcus, picked from these plates, were grown on red blood agar slants. After about eighteen hours' incubation, a tube (5 c.c.) of infusion broth was poured over the slant and incubation continued for a period sufficient to yield adequate growth in the broth for agglutination and bile solubility tests.

In the ward surveys for hemolytic streptococci, this technic was employed:

Beef infusion agar (0.3 per cent. acid to phenolphthalein) was prepared and stored in from 300 to 500 c.c. amounts. On melting and cooling the agar below 45 C., sterile defibrinated horse blood was added in amounts sufficient to make up 5 per cent. of the volume of the agar. Thorough mixing and pouring into petri dishes (10 cm. in diameter) followed.

Throat cultures of all patients in the ward were made on the day of study. In taking the culture, a small cotton swab was touched first to the posterior pharyngeal wall in order to produce gagging. This caused the tonsils to protrude toward the midline and placed a slight tension on the capsule, which tended to press material from the crypts. The surfaces of both tonsils thus protruding were quickly brushed and the swab withdrawn without touching other parts. These swabs were carried to the laboratory in sterile test tubes and were used at once to inoculate the blood agar plate surfaces.

The swab was touched lightly to the agar surface at two points, one near each extremity of a given diameter of the plate. The swab stick was turned between the fingers through one revolution so as to bring all points of the swab in contact with the agar. The inoculum was spread by means of an inoculating wire slightly curved at the end. After passing the wire several times over the points of inoculation, multiple streaks and cross streaks were made, avoiding further contact with the points of primary inoculation. With a little experience this method furnished well seeded plates, presenting colonies widely enough separated to render plate reading easy.

Careful preparation of mediums, and a rigid technic for throat swabbing and for seeding the plates are prime requisites which cannot be emphasized too strongly in any method of direct throat culture. Lack of care in any one of these particulars does much to vitiate the results obtained. In properly prepared cultures, the recognition of hemolytic streptococci is very simple.

In these ward surveys, plate readings, supplemented by a Gram stain of typical hemolytic colonies, were employed as the means of identification of hemolytic streptococcus carriers. Colonies producing typical hemolytic zones of the Beta type of streptococcus (Smith and Brown) were picked from all cultures in which they appeared after twenty-four hours' incubation, and were stained. Cultures presenting hemolytic colonies, which on staining showed gram-positive cocci in chains, were regarded as positive for hemolytic streptococci. Further confirmatory studies were not made.

These surveys at ten day intervals were instituted to determine the prevalence of hemolytic streptococci in the wards rather than to follow the bacteriology of any particular patient. They were employed as a clinical aid in a system of ward management aimed at minimizing dangerous contact dissemination of hemolytic streptococci. The methods used enabled the prompt reporting of hemolytic streptococcus carriers and their early isolation, both of which are matters of extreme importance in the management of wards caring for influenza and pneumonia patients.

### STUDIES OF ACUTE INFLUENZA

A group of twenty-two patients was studied by means of throat and sputum cultures on brown blood agar, together with the inoculation of sputum into the peritoneal cavities of white mice, and subsequent cultures of the peritoneal exudate and the heart blood were made both on red and brown blood agar plates. This triple means of study enabled a determination of the occurrence of *B. influenzae*, pneumococcus and hemolytic streptococcus, which was: *B. influenzae*, twenty-two times, or 100 per cent.; pneumococcus, Type I, none; Type II, one; Type II, atypical, five; Type III, one, and Type IV, nine; total, sixteen, or 72.7 per cent.; hemolytic streptococcus, twice, or 9.1 per cent.

A second group comprises forty-five cases of acute influenza, which were studied only by throat and sputum cultures. These cultures were made on the brown blood agar, and no attempt was made to identify organisms other than *B. influenzae*. *B. influenzae* was isolated and identified in forty-three of these cases, or in 95.5 per cent. Of this group, cultures were made of eighteen patients in the receiving ward of the hospital, of which number, only throat cultures were made in six cases. The two patients that were negative for *B. influenzae* were in this group of six.

In the first series in which a study was made by all three methods, *B. influenzae* was found in 100 per cent. of the cases. These results are in accord with those obtained last year at Camp Pike by Opie [3] and his co-workers.

The second group demonstrates that *B. influenzae* can be found in practically every case by the less elaborate methods, when cultures are made on brown blood medium. It should be emphasized that this medium appears to be more or less selective for growing the Pfeiffer bacillus.

### BACILLUS INFLUENZAE IN NONINFLUENZAL PATIENTS

Cultures for *B. influenzae* were made of a group of patients, with conditions other than influenza or other respiratory diseases, examined in the receiving wards of the hospital during the height of the epidemic. Of the thirty patients of whose throats and sputums cultures were made, *B. influenzae* was isolated in twenty-one, or 70 per cent.

In a second series, twenty-six patients hospitalized before the epidemic in the tuberculosis ward, *B. influenzae* was identified in sputum and throat cultures in nine instances, or 34.6 per cent.

These studies furnish two control series. The first represents patients arriving at the hospital during the height of the epidemic, and can be regarded as a group showing the prevalence of the Pfeiffer bacillus in persons outside the hospital during the period of the epidemic. The relatively high incidence of this organism in the foregoing series is comparable to the reported findings [4] in normal persons during the pan-

3. Opie E. L.; Freeman, A. W.; Blake, F. G.; Small, J. C., and Rivers, T. M.: Pneumonia Following Influenza, J. A. M. A. **72**: 556-565 (Feb. 22) 1919.

4. Stillman, E. G., and Pritchett, I. W.: J. Exper. Med. **29**: 295 (March) 1919.

demic of 1918, and may be regarded as illustrating the wide dissemination of the bacillus during epidemic periods.

The second group represents patients hospitalized before the epidemic, and may be regarded as illustrating the prevalence of Pfeiffer's bacillus during the interepidemic periods.

### PNEUMONIA STUDIES

A group of thirty-two cases studied bacteriologically presents the bacteriology of the pneumonia of influenza as it occurred in cases chosen at intervals in the hospital wards throughout the course of the epidemic.

The occurrence of the various organisms was: pneumococcus, Type I, two times; Type II, one; Type II, atypical, six; Type III, five; Type IV, thirteen; total, twenty-seven, or 84.4 per cent.; hemolytic streptococci with pneumococci, one; with no pneumococci, five; total, six, or 18.7 per cent.; *B. influenzae,* twenty-four, or 75 per cent.

The types of pneumococci occurring in the mouths of normal persons were found in practically 90 per cent. of the pneumococcus pneumonia cases of this group. The parasitic types, I and II, occurred infrequently, Type I only twice, and Type II once. These findings are in accord with those reported for the pneumonia of the 1918 pandemic of influenza by various observers.

Hemolytic streptococci occurred in approximately one fifth of the cases. In those studied early, hemolytic streptococci were not found. All instances in this group in which hemolytic streptococci appeared were among patients studied within the latter half of the epidemic. *B. influenzae* was present in three fourths of these cases.

### WARD SURVEYS FOR IDENTIFICATION OF HEMOLYTIC STREPTOCOCCI

The dissemination of hemolytic streptococci throughout wards in which acute respiratory diseases were treated, and the dangers attending such dissemination, have been emphasized recently.[5] In two of the wards, throat cultures of all patients under treatment were made at intervals of about ten days. The cultural methods have been described. Since many cases of

TABLE 1.—RESULTS OF CULTURES TAKEN FOR HEMOLYTIC STREPTOCOCCI IN WARD A

| Cultures | | Cultures Positive for Hemolytic Streptococci | |
|---|---|---|---|
| Date | Number | No. | Per Cent. |
| Jan. 24 | 24 | 4 | 16.7 |
| Feb. 3 | 33 | 1 | 3.3 |
| Feb. 12 | 4 | 2 | 50.0 |

pneumonia terminated fatally in less than ten days and many patients with influenza were discharged within a shorter period than this, the study furnishes few repeated cultures on individual patients during the course of their illness. The repeated ward surveys indicate the incidence of hemolytic streptococci in the wards during the period of their use for the care of influenza and pneumonia patients. The results of this study have been:

1. In Ward A, from January 18 to February 13, the total number of patients treated was 125; the total number of pneumonia patients treated in the ward was fifty-seven, and the total number of deaths in the ward was forty-one.

Of the four patients positive for hemolytic streptococci on the first survey, three developed no complications of influenza and left the hospital before recultures were made of the patients in the ward. They had been in the hospital four, six and seven days, respectively, before cultures were taken. The fourth patient was admitted with influenzal pneumonia nine days before the cutlure was made, and died of pneumonia, January 28. Cultures had been taken previously of each of the three patients identified as hemolytic strep-

TABLE 2.—RESULTS OF CULTURES TAKEN FOR HEMOLYTIC STREPTOCOCCI IN WARD B

| Cultures | | Cultures Positive for Hemolytic Streptococci | |
|---|---|---|---|
| Date | Number | No. | Per Cent. |
| Jan. 24 | 64 | 15 | 23.4 |
| Feb. 3 | 70 | 14 | 20.0 |
| Feb. 12 | 22 | 12 | 54.2 |

tococcus carriers on the second and third ward surveys and had been found to be negative. They were patients that had acquired hemolytic streptococci in the hospital. Two of these patients had pneumonia on admission. Both died: the first, three days after the identification; the second, eight days after the identification. In neither patient was a diagnosis of empyema made.

The results show that the incidence of hemolytic streptococci in this ward was never high. The complications (other than pneumonia) developing among the fifty-two patients studied are in accord with this finding. They are two cases of empyema, one due to pneumococcus Type II, atypical, and the other showed *Streptococcus viridans* and staphylococci on culture. One case of otitis media occurred, the bacteriology of which was not determined.

2. In Ward B, from January 19 to February 13, the total number of patients treated was 184; the total number of pneumonia patients treated in the ward was 101, and the total number of deaths in the ward was fifty-six.

The figures in Table 2 indicate that there was a wider dissemination of hemolytic streptococci in Ward B than in Ward A. Four cases of empyema occurred in Ward B, all due to hemolytic streptococci.

Of the fifteen patients whose throats gave cultures positive for hemolytic streptococci, January 24, five had pneumonia. Three recovered without further complication. The fourth died of pneumonia, and the fifth developed a hemolytic streptococcus empyema, diagnosed, January 4, and is at present under treatment in a surgical ward. The remaining ten were patients with influenza, of which number, all recovered without complication.

Of the fourteen patients whose throats gave cultures positive for hemolytic streptococci, February 3, twelve had pneumonia, of which number, two had been positive and one negative for hemolytic streptococci on previous culture. Of the remaining nine, two developed hemolytic streptococcus empyema. One of these died, February 7; the other is convalescent. Of the remaining seven patients, one died of pneumonia. Two patients with influenza recovered without complication.

Previous cultures had been made in the twelve cases, positive, February 12. One patient had had two posi-

5. Opie, et al. (Footnote 3). Cole, Rufus, and MacCallum, W. G.: Pneumonia at a Base Hospital, J. A. M. A. **70**: 1146 (April 20) 1918. Levy, R. L., and Alexander, H. L.: The Predisposition of Streptococcus Carriers to the Complications of Measles, J. A. M. A. **70**: 1827 (June 15) 1918.

tive and another one positive culture. Both recovered from the pneumonia without complication. Of the remaining ten patients negative on previous cultures, one recovered from uncomplicated influenza, and nine had pneumonia. One died of uncomplicated pneumonia, February 15. Two were discharged as recovered. Six are under treatment for pneumonia, and two of these have developed otitis media.

In addition to the complications mentioned, a few cases of otitis media developed among patients whose throat cultures were negative for hemolytic streptococci. The bacteriology of the cases of otitis media was not determined.

The red blood agar plates used in the ward surveys for hemolytic streptococci were also studied for *B. influenzae*. These results are of interest in showing the relative incidence of *B. influenzae* among the ward patients studied at various intervals throughout the course of the epidemic. They are not presented to give actual incidence of *B. influenzae* because the methods employed are less reliable for the isolation of this bacillus than those employed for determining actual incidence.

A summary of the studies of the cases in the two wards is given in Table 3.

It has been mentioned that early in the course of the epidemic the wards had under treatment more patients with influenza than with pneumonia, but that later the number of patients with pneumonia predominated. In the summary given in Table 3, all ward patients were

TABLE 3.—RESULTS OF STUDY OF CULTURES TAKEN FOR B. INFLUENZAE

| Cultures | | Cultures Positive for B. Influenzae | |
|---|---|---|---|
| Date | Number | No. | Per Cent. |
| Jan. 24 | 76 | 67 | 88.2 |
| Feb. 3 | 102 | 60 | 58.4 |
| Feb. 12 | 26 | 3 | 12.0 |

included, i. e., both influenza and pneumonia patients. The results indicate a decrease in the relative incidence of *B. influenzae* in the later periods of the epidemic when the larger part of the patients in the wards had pneumonia.

## SUMMARY

About one third as many patients suffering from influenza or its complicating pneumonia were treated in this hospital during the present epidemic as were treated during the pandemic of 1918.

Of the 829 patients whose cases were analyzed, 503, or 60.7 per cent., were admitted with a diagnosis of influenza, and 326, or 39.3 per cent., with a diagnosis of pneumonia. Many of the latter were moribund on admission to the hospital. Of these 326 pneumonia patients, 205 died, a mortality rate of 62.9 per cent.

Forty-six, or 9.1 per cent., of the patients admitted with influenza developed pneumonia, and twenty-six, or 47.8 per cent., of these died.

*B. influenzae* was isolated by the multiple culture methods from 100 per cent. of the patients studied, and by the direct sputum and throat culture method from 95.5 per cent.

Pneumococci were found in 84.4 per cent. of the cases of pneumonia studied, and for the most part are represented by the types of pneumococci found in the mouths of normal persons. Hemolytic streptococci were found in 18.7 per cent., and *B. influenzae* in 75 per cent. of these cases of pneumonia.

One of the wards showing active dissemination of hemolytic streptococci furnished four cases of empyema, all due to hemolytic streptococci. Two cases of empyema, both due to organisms other than hemolytic streptococci, occurred in a second ward where these organisms were less prevalent.

## CONCLUSION

*B. influenzae* has been isolated and identified in 100 per cent. of the cases of acute influenza.

In the cases of pneumonia complicating influenza, pneumococci predominate. They are chiefly of the types found in the mouths of normal persons.

Hemolytic streptococci occupy a prominent place in the complications of influenza and pneumonia.

## ADDENDUM

We believe that a brief statement as to the hospital management during the epidemic will be valuable to illustrate the conditions under which these studies were conducted.

By condensing medical and surgical services, five wards were rendered available for the treatment of influenza and pneumonia patients admitted to the hospital during the period of the epidemic. These wards were opened one after another as needed. The wards were filled to capacity in the order in which they were opened. After the fifth ward had been filled, sufficient beds were becoming available in other wards to care for patients admitted subsequently.

Influenza and influenzal pneumonia patients were not treated in separate wards. Early in the epidemic period there were fewer pneumonia and more influenza patients than later when the pneumonia patients predominated among the admissions. In the latter part of the period the treatment wards became literally pneumonia treatment wards, the segregated uncomplicated influenza patients occupying much the smaller sections of the wards. The wards were supplied with sheet cubicles and otherwise equipped before receiving any patients.

These rules for the management within the wards were issued on the opening of the wards and served as a basis of the plan of ward management throughout the epidemic:

The cubicle system is to be used in all wards.

Paper bags will be provided and must be used for soiled napkins and gauze.

Hand disinfectant solutions will be provided for use by the physicians, nurses and attendants in passing from one patient to another.

Ward floors should not be dry swept, but must be scrubbed at intervals with compound solution of cresol in the water.

All physicians, nurses and attendants are required to wear gowns, caps and masks while in the ward.

Bed patients are not required to wear masks, but the mask will be strictly enforced on all patients leaving the cubicle.

Paper napkins are to be provided for bed patients, who will be instructed to cover the mouth and nose on coughing, sneezing, etc. These must be changed when soiled.

Attempt will be made to keep acute cases of influenza in the same section of the ward.

Attempt will be made to prevent the congregating of convalescents in toilets, bath rooms, etc.

The borrowing and lending of materials between the patients is to be strictly prohibited.

Pneumonia developing in the influenza wards will be treated in separate sections of the wards, and medical asepsis strictly enforced in such section.

Cases of streptococcus pneumonia must be treated apart from those of pneumococcus pneumonia.

# THE DELIRIOUS AND THE MENINGORADICULAR TYPES OF EPIDEMIC ENCEPHALITIS

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Since my last report [1] of a number of cases of epidemic encephalitis, I have become convinced that the same unknown virus produces clinical forms in which lethargy and other common symptoms of the characteristic "lethargic" form may be lacking. That we are dealing with the same disease is shown by the similarity in pathologic anatomy, the existence of transitional forms, and the occurrence of all these forms in the same community at the same time. Among the cases observed during the past winter, several have presented severe symptoms of a general infection suggestive of typhoid fever, acute miliary tuberculosis or other acute infectious disease. In other cases, verified by necropsy, the resemblance to severe, acute chorea was marked. Among new symptoms I, too, have observed the twitching of the abdominal muscles to which Thomas F. Reilly [2] has recently called attention.

One patient, now improving, had complete right hemiplegia with aphasia, and another patient, who died, had at different periods right and left hemi-

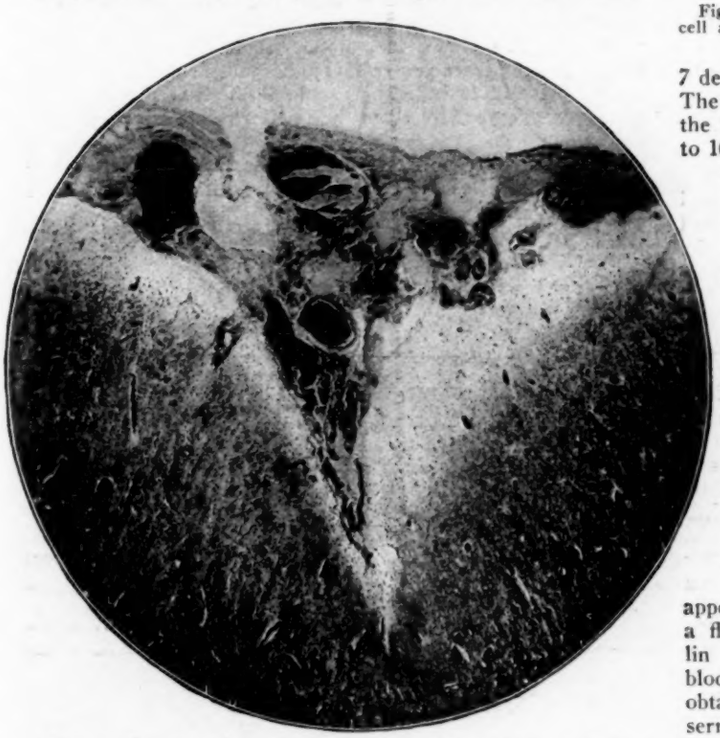

Fig. 1 (Case 3).—Motor cortex: congestion, hemorrhages, and edema of the pia; hematoxylin and eosin, × 25.

plegia. Pain in the extremities was a marked feature in a few otherwise typical cases, and serves to connect them with the type which I propose to designate "meningoradicular." This bears some resemblance to the so-called "infective neuronitis," [3] and will be discussed at the end of this paper.

1. Bassoe, Peter: Epidemic Encephalitis (Nona), J. A. M. A. **72**: 971 (April 5), 1919.
2. Reilly, T. F.: Hitherto Undescribed Sign in Diagnosis of Lethargic Encephalitis, J. A. M. A. **74**: 735 (March 13) 1920.

## REPORT OF CASES

CASE 1.—*History.*—A man, aged 36, seen at the Evanston Hospital with Drs. W. G. Alexander and W. G. Stearns, Nov. 12, 1919, two weeks previously when in an exhausted state from overwork and worry, had commenced to complain of headache, and pain in the right side of the neck and left arm. He became irrational, November 6, and on November

Fig. 2 (Case 3).—Motor cortex, deep layer: degenerated ganglion cell and satellites; × 1,200.

7 developed diaphragmatic spasms which lasted for five days. The highest temperature observed prior to his admittance to the hospital, November 9, was 100.2 F. From November 9 to 16 it ranged from 100 to 102, pulse, 90 to 110, respirations, 20 to 25; November 18, the temperature was 102.2, then from 100 to 101 until November 26, after which time it was usually between 99 and 100. November 11, Dr. Stearns recorded "involuntary, irregular contractions of the diaphragm, extending over the upper trunk muscles, and accompanied by more or less coarse tremor."

*Examination and Course.*—The leukocyte count, November 11, was 17,600; November 12, 26,200; November 13, 19,000; November 19, 12,800; November 28, 9,200; December 8, 12,800; December 19, 12,600. November 12, Dr. C. J. Swan noted "spontaneous nystagmus which does not seem to be labyrinthine but is synchronous with contractions of the body muscles. Fundi normal." On that day I failed to find any paralysis or any abnormality in the reflexes. The patient was very restless and delirious, and the diaphragmatic spasm was continuous. On the following day, partial left ptosis appeared and remained a few days, and on November 29 transient right ptosis appeared. Lumbar punctures, November 14 and 25, yielded a fluid admixed with blood, so that cell count and globulin tests were of little value; but cultures with both blood and spinal fluid were negative. A clear fluid, obtained November 22, gave negative globulin and Wassermann tests and a cell count of 18. The Wassermann test with the blood was negative. While comparatively clear mentally part of the time, he was described, December 21, as stuporous and at times delirious, and at that time had to be catheterized for two days. During January he steadily improved, and by the middle of the month began to sit up. The mental condition became normal. In March he was said to be well.

CASE 2.—*History.*—A man, aged 38, seen at the Highland Park Hospital with Dr. L. M. Bergen, Nov. 13, 1919, had

3. Kennedy, Foster: Infective Neuronitis, Arch. Neurol. & Psychiat. **2**: 621 (Dec.) 1919.

complained of pain in the face and body, November 6, and took to his bed. The pain lasted only one day. After three days he became delirious and was admitted to the hospital in a state of restless delirium, November 11, with a temperature of 99.8, pulse, 116; respirations, 20. Insomnia was a marked feature.

*Examination and Course.*—November 12, the leukocyte count was 9,000; urine, normal. When seen in the evening of

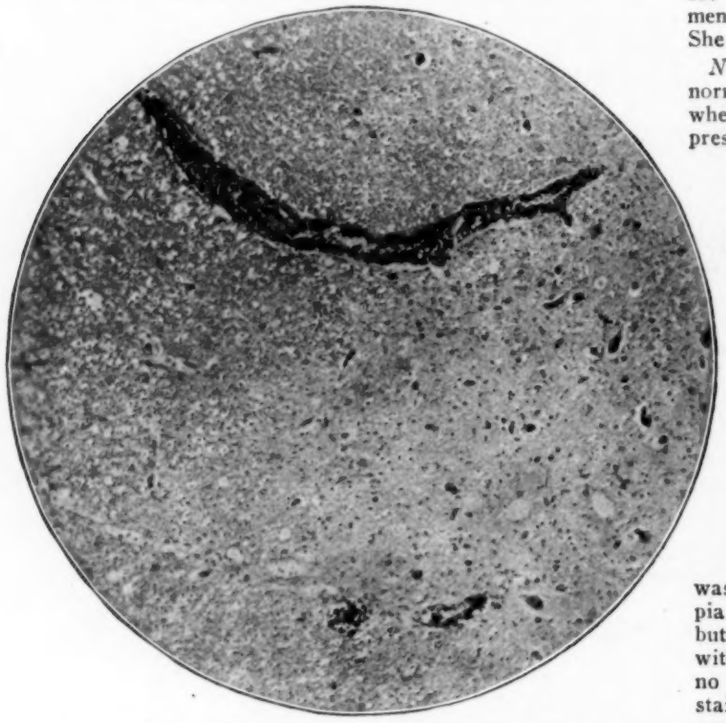

Fig. 3 (Case 3).—Lower bulb: perivascular infiltration; × 85.

November 12, he was extremely restless and constantly fumbled with the bedclothes, but he was oriented and answered questions. The temperature on that day reached 102; pulse, 126; respiration, 28. General examination of the abdominal and thoracic viscera was negative. There was no paralysis, nor were there other positive neurologic findings. The Widal and Wassermann tests were negative. The patient became cyanotic and died the same evening. No necropsy was held.

Case 3.—*History.*—A girl, aged 16, with negative previous history, seen at the Grant Hospital with Dr. Bertram R. Beers, Dec. 31, 1919, began, a week before, to complain of slight pain in the left leg and the left side of the body, and general malaise. Later, jerky movements set in; but little attention was paid to her trouble until December 29, when she had an attack in which she became rigid, frothed at the mouth and screamed. Afterward she was unable to talk for a time. Late in the evening of that day she was admitted to the hospital with a temperature of 100.8; pulse, 84; respirations, 20. During her stay in the hospital she was actively delirious and constantly threw herself about. She used the right side of the face and the right arm more than the left. She frequently struck at the physicians with her right arm. There were involuntary discharges of urine and feces. The temperature, December 30, ranged from 101 to 102; pulse, from 80 to 112.

*Examination.*—Blood examination revealed: hemoglobin, 85 per cent.; red cells, 4,680,000; white cells, 27,600 (polymorphonuclears, 82 per cent.; small mononuclears, 16 per cent.; large mononuclears, 2 per cent.). When examined, December 31, the patient could only whisper unintelligibly and was in a state of active delirium. She had a heavily coated tongue, sordes on the teeth, cracked lips, and acetone odor of the breath. The right pupil was larger than the left and reacted poorly to light, while the left one reacted normally. The tendon reflexes and the abdominal reflexes were not obtained, while the plantar reflexes were normal. The heart and lungs were negative. The urine contained albumin, and one granular cast was seen. Lumbar puncture yielded a clear fluid under normal pressure with a cell count of 150 lymphocytes, negative Nonne-Apelt globulin test, and a practically negative Lange test (0011100000). The temperature, January 31, ranged from 102 to 103.6.; the pulse rate from 110 to 132. January 1, the delirium and continuous movements persisted and the temperature rose from 102.4 to 106.4. She died at noon on that day.

*Necropsy.*—Dr. Beers informed me that the viscera were normal except for cloudy swelling of the liver. The brain, when received by me in 10 per cent. liquor formaldehydi, presented no gross changes externally or on section except considerable congestion. No hemorrhages were visible to the naked eye.

Histologic Examination: Lower medulla: very slight mononuclear infiltration of pia; well marked perivascular infiltration throughout; cells mononuclear. Upper medulla: similar changes but less marked; very little change in the ganglion cells. Cerebellum: very slight cell infiltration of meninges; no distinct perivascular infiltrations; some of the Purkinje cells showed degenerative changes with their nuclei obscured and presence of satellites. Pons: meningeal cell infiltration slightly more marked than in medulla; one small subpial hemorrhage was seen, also a very few and small recent hemorrhages in the interior; several fairly dense perivascular infiltrations were present. Crus and midbrain: perivascular infiltrations similar to those in lower medulla; a few small hemorrhages were seen; ganglion cells were, on the whole, well preserved, and satellitosis was slight; there was no distinct perivascular infiltration. Right motor cortex: pia congested with extensive hemorrhage in one of the sulci, but only slight cellular infiltration; cortical vessels engorged with a slight increase in lymphocytes in the adventitia, but no distinct perivascular collars; the ganglion cells took the stain well and had distinct nuclei; satellitosis was rather pronounced, especially about the smaller cells; a few ganglion cells were decidedly degenerated, with loss of nucleus and pulverization of the Nissl bodies; other cells appeared narrow, with total loss of cell structure (cell sclerosis); some

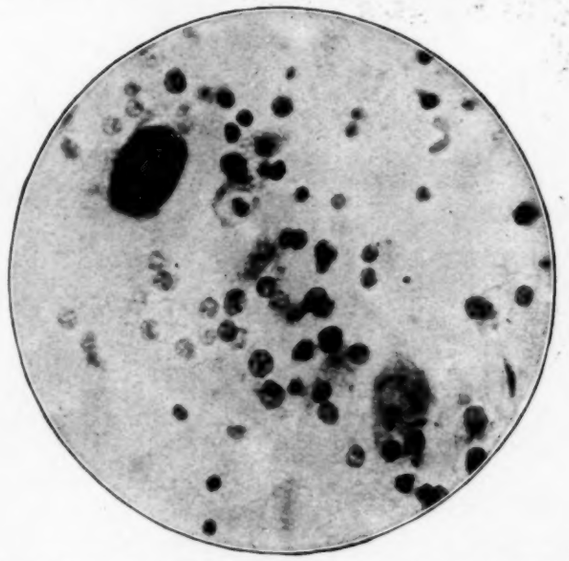

Fig. 4 (Case 4).—Cerebellum: below, degenerated Purkinje's cell, surrounded by phagocytic cells; above, well preserved Purkinje's cell; toluidin blue, × 540.

of the smaller ganglion cells were invaded by two or three neuronophages. Right occipital lobe: no pial hemorrhage, and congestion less marked; cell changes less marked than in motor cortex. Right frontal: pial congestion quite marked, with slight hemorrhage; few small extravasations seen in the cortex; many small ganglion cells much degenerated:

the same was true of a few of the larger ones; satellitosis was quite common; neuronophagia was extremely rare.

CASE 4.—*History.*—A high-school girl, aged 17, seen on Jan. 15, 1920, with Dr. Kate Graves, had been quite tired from working in a store during her Christmas vacation. January 2, a very cold day, she had been skating, and felt ill in the evening. The next morning she had occipital headache, and chills in the afternoon, followed by severe toothache for which a dentist could find no cause. January 4, she had pain about the left eye and in front of the left ear, but no fever.

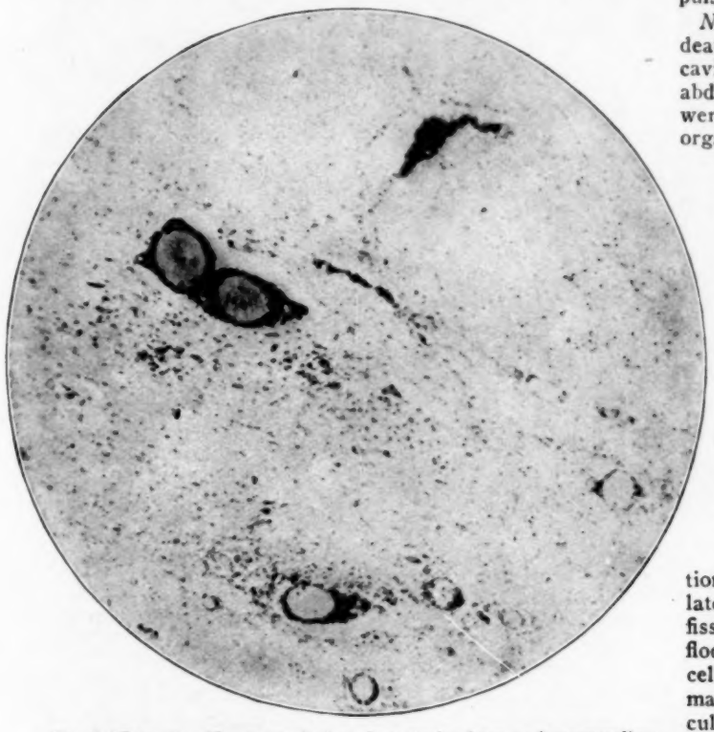

Fig. 5 (Case 4).—Upper cervical cord, posterior horn and surrounding white matter: perivascular and diffuse inflammation; toluidin blue, × 90.

The patient went to bed that day, felt better on the 5th, and on the 6th she had pain in the left shoulder. From the 6th to the 11th she had very rapid breathing without any chest findings, with no acceleration of pulse, and the temperature did not exceed 99.4. On the 10th she was troubled with mucus in the nose, was nauseated and quite hysterical and delirious, seemed to have hallucinations of sight and hearing, and wanted water every few minutes; she said she could not breathe without it. From the 12th a nurse was in attendance, so that a temperature record was kept. On that day the highest temperature (axilla) was 100; pulse, 120; respirations, 40. She was restless and perspired freely. She had some disturbed sleep after taking paraldehyd. On the 13th the temperature ranged from 100.6 to 101.2; pulse, 98 to 108; respirations, 26 to 42. On the 14th, temperature, 99.5 to 100.6; pulse, 96 to 102. She was restless and was quieted by paraldehyd and luminal. On the 15th the temperature and pulse were about the same. Since the 10th she had been having jerky and twitching movements of the face and extremities; double vision was complained of on the 11th, 12th and 13th.

*Examination and Course.*—January 15, the patient was very drowsy; she did not cooperate in the examination. No choreic or other movements were observed. The pupils were small and equal, and reacted to light. The plantar reflexes were normal; the abdominal and ankle reflexes were not obtained. The right knee reflex was present, the left, absent. There was a weak systolic murmur at the apex. Herpes appeared on the right lip and erythematous patches on the right cheek and right side of the chest. Lumbar puncture yielded a clear fluid under normal pressure. The Wassermann test was negative. The Nonne-Apelt globulin test was positive; cell count, 72; Lange gold test, negative.

On the evening of the 15th she slept for three hours without a hypnotic. In the morning she was quite rational and quiet, but had much difficulty in clearing her throat. She became unable to swallow, and mucus rapidly accumulated in the throat. She grew cyanotic and died at 1 p. m., January 16. The maximum temperature on that day was 100.6; pulse, 100; respirations, 34.

*Necropsy.*—A limited necropsy was made six hours after death. There was no fluid in the pleural or peritoneal cavities. The lungs contained no consolidated areas, and the abdominal viscera were normal externally. Small pieces were removed for histologic examination; otherwise the organs were not incised. The cerebral meninges were normal and there was no evidence of inflammation in the sphenoid or ethmoid sinuses. The brain showed no changes externally or on the cut surfaces when sectioned after formaldehyd hardening. The brain weighed 1,200 gm. Blood-agar cultures of the cerebrospinal fluid obtained at the base of the brain remained sterile.

Histologic Examination: Cerebellum: considerable pial infiltration with mononuclear cells; marked congestion and occasional slight extravasation in pial septums; many Purkinje cells were degenerated and surrounded by satellites. Cervical cord: considerable cell infiltration and marked distention of vessels at the ventral median fissure; large perivascular infiltrations in gray and in white matter, and in all parts of the transverse section; gray and white matter about equally involved. Lower medulla: very large and numerous perivascular infiltrations throughout the cut surface; also, much diffuse round cell infiltration. Upper medulla: pial infiltration marked, especially laterally; much less marked in ventral fissure than in same fissue of cord; vascular infiltrations especially marked near floor of fourth ventricle, but present throughout; ganglion cells preserved, but surrounded and invaded by inflammatory cells. Midbrain with aqueduct: numerous perivascular infiltrations and considerable hemorrhage. Optic thalamus: very little inflammation; no large infiltrations. Cerebral cortex: slight pial infiltration; considerable satellitosis about the small ganglion cells in the deeper layers of the cortex.

Fig. 6 (Case 4).—Lower bulb, near central canal: perivascular infiltration of mononuclear cells, denser about veins (to left), than about artery.

*Comment on Histologic Findings.*—It will be noted that essentially the changes are the same as in the ordinary lethargic form. The mononuclear cell infiltrations are most marked in the bulb, pons and cord, while the basal ganglions show surprisingly little involvement. On the other hand, the pial infiltration over the cerebral cortex is relatively marked.

### "MENINGORADICULAR" TYPE

With some hesitation I suggest that this virus also may produce a syndrome characterized by meningeal irritation, and by irritation or paralysis referable to the spinal or cranial nerve roots.

CASE 5.—*History.*—A man, aged 34, seen, April 8, 1919, with Dr. H. F. Langhorst of Elmhurst, Ill., had been taken with vomiting and diarrhea four days before. The next day his temperature was 100, and he had severe pain in the left side of the neck and the left shoulder. The following day he felt better and walked about, but on April 7 he became unable to extend the right hand and to hold the head up. There was pain at the back of the neck.

*Examination and Course.*—April 8, the neck muscles were weak and active movements painful. There was paralysis of the extensors of the fingers of both hands. The abdominal muscles and flexors of the hips were weak. There was no other paralysis. Sensation was normal. All tendon reflexes were present, but those in the arms were weak. There was no mental disturbance at any time. The pulse was slow (56). Lumbar puncture yielded a clear fluid under increased pressure with a cell count of 20, and weakly positive globulin test and Lange gold test (0122111000). The patient rapidly improved. April 12, he was able to walk about, and complained only of slight numbness in the fingers and toes. He recovered completely.

CASE 6.—*History.*—A business man, aged 39, with negative previous history aside from right-sided facial paralysis of a few days' duration three years before, admitted to the Presbyterian Hospital, Jan. 27, 1920, six weeks previously had been taken with pain and stiffness of the neck, and later, with pain in both shoulders and arms. January 2, he had fever and delirium which lasted two days. January 4, he became unable to close his right eye or close the mouth tightly on the right side. When admitted to the hospital his chief complaint was pain in both forearms and hands.

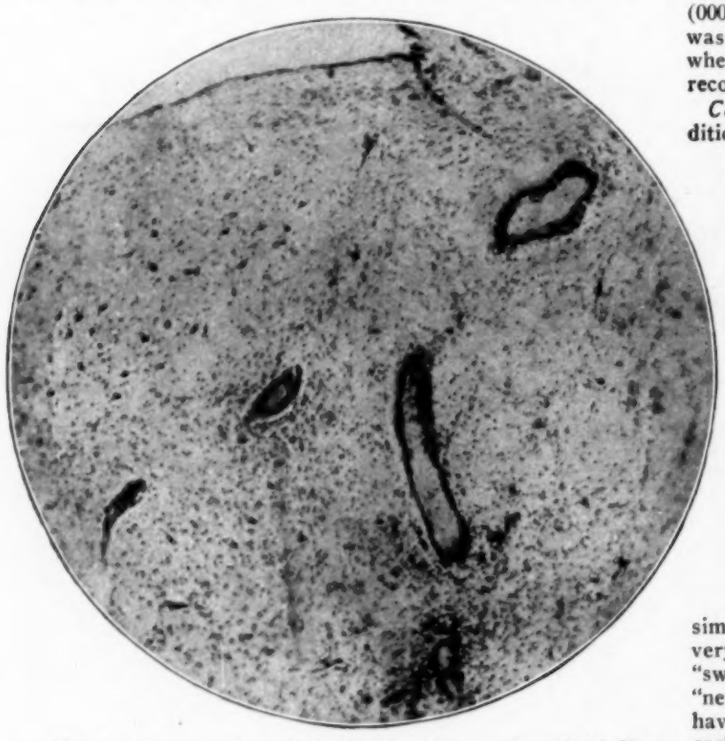

Fig. 7 (Case 4).—Upper bulb, dorsal surface: perivascular infiltration; toluidin blue, × 70.

*Examination and Course.*—The chief findings were: slight right-sided facial paralysis of peripheral type, increased knee reflexes, more so on the left side; left Babinski sign, left lower abdominal reflex absent; other abdominal reflexes normal. Muscular tenderness of forearms and hands. Mentally clear. Lumbar puncture, January 27, yielded a clear fluid under greatly increased pressure; cell count, 16; Nonne-Apelt globulin test, positive; Lange gold test, positive (0123221000); Wassermann test negative with blood and spinal fluid. Blood count: hemoglobin, 100 per cent.; erythrocytes, 4,150,000; leukocytes, 9,800. The patient slept poorly on account of pain in the arms. A second lumbar puncture, January 31, yielded clear fluid under normal pressure, 9 cells; globulin test, positive; Lange gold test weaker (0001221100). The maximum temperature at the hospital was 99.2. The patient still complained of pain in the arms when he went home, February 2, but was reported as having recovered by the end of the month.

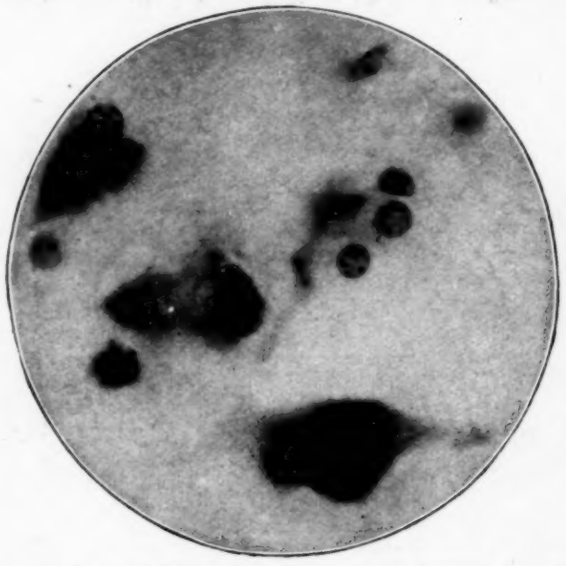

Fig. 8 (Case 4).—Motor cortex, deep layer: degenerated ganglion cells with satellites; toluidin blue, × 900.

*Comment.*—The right-sided facial paralysis and the condition of the reflexes on the left side of the body suggest a mild pons lesion. The facial nerve may have been involved at its exit from the pons or in its nucleus. The high pressure of the spinal fluid indicates serous meningitis, while the pain in the arms and neck was probably caused by root irritation, as there was no paralysis or sensory disturbance, nor atrophy or change in the reflexes in the arms. The involvement in this case was sufficiently extensive to merit the term "meningoencephalomyeloneuritis," used by Barker, Cross and Irwin[4]

30 North Michigan Avenue.

4. Barker, Cross and Irwin: Am. J. M. Sc. **159**: 157 (Feb.) 1920.

**Influenza an Ancient Disease.**—In his special report on influenza to the London county council, Dr. H. W. Hamer gives an account of the prevalence of the disease in London with reference to contemporary outbreaks in other parts of the world and reviews the occurrence of similar epidemics in bygone years. Dr. Hamer draws some very instructive parallels between this last epidemic and the "sweats," "hot agues," "spotted fevers," and certain so-called "new diseases," all more or less of an influenzal type, which have been described by writers in the fifteenth, sixteenth and early part of the seventeenth centuries. These also were apparently associated with other diseases of an allied type, in which cerebral symptoms predominated, and he points out that the history of the "new fever" of 1685 bears a close resemblance to the 1915 outbreak of influenza in London, plus cerebrospinal fever. Dr. Hamer extracts from the old writers a mass of strikingly suggestive evidence, in which the quaint terse terms used by them to describe the outstanding features of the epidemics are almost as conclusive as the more elaborate nomenclature of modern physicians.

# TUBING AS A CAUSE OF REACTION TO INTRAVENOUS INJECTION, ESPECIALLY OF ARSPHENAMIN

PRELIMINARY REPORT *

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During the last two years we have been investigating the cause of an arsphenamin reaction observed on the service of the Section on Dermatology and Syphilology. This reaction, characterized by a chill with a sharp rise in temperature coming on from thirty minutes to an hour after intravenous injection, accompanied by nausea, vomiting, diarrhea, pain in the head and back and varying degrees of prostration, would appear in crops, so to speak, and then disappear for a considerable period, only to recur in the very midst of what seemed a period of flawless technical accuracy. Repeated efforts to identify a cause in the water or the chemicals employed in the preparation of arsphenamin for injection yielded nothing definite. The first clue to the actual cause was afforded by the appearance of a series of reactions, Jan. 6, 1919, following the transfer of the hospital and operating room service of the section from the Colonial Hospital to the Worrell Hospital. On this day every element in the technic except one remained the same as on the last day at the Colonial, when no reactions had occurred. The old piece of supposedly pure gum rubber tubing used on the glass container on the final reactionless day at the Colonial was replaced by the new piece of pure gum rubber tubing used on the opening day of many reactions at the Worrell. One of us (Busman), who was administering the arsphenamin at this time, suggested that the new tube was responsible for the reactions, although its cleaning and sterilization had been carried out with the same care used in the case of the old tube. Starting with this suggestion, we have carried the investigation of the "tubing reaction" to the point at which a preliminary report of the work seems desirable in order that physicians generally may be placed on their guard. One of us (Stokes), viewing the matter in retrospect, can recall two "epidemics" of similar reactions in his own experience on another service, which were attributed at the time to contamination of the distilled water. Study of the literature of crops of reactions, notably in army camps, also offers some points of suggestive comparison with our own experience. The possibility that a reaction of this type forms a complication of intravenous injections of alkaline solutions given through a brand of tubing known to produce this reaction, and the possible relation of the tubing to certain reactions occurring in blood transfusion by the citrate method as employed in the Mayo Clinic, are also under investigation.

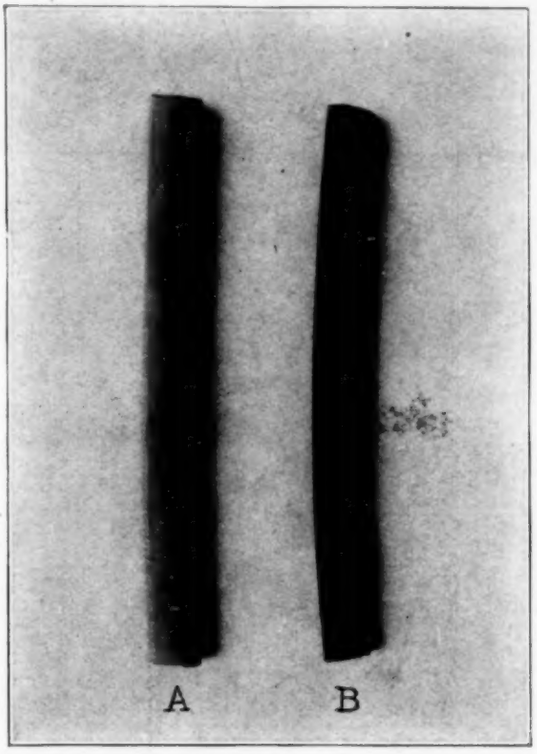


Fig. 1.—Two samples of "pure gum rubber" tubing: The lighter colored tubing *(A)* will give rise to reactions when new, if used for intravenous injection of arsphenamin and certain alkaline solutions; the darker tubing *(B)*, even when new, apparently does not give rise to reaction.

At the time of the operating room transfer, all fourteen patients who received arsphenamin through the new tube reacted. On the following day, fifteen of eighteen patients reacted to another new tube. Four and one-half months later, when another change of tubing became necessary, an old and a new tube were checked against each other, identical lots of arsphenamin prepared in identically the same manner being employed. On the first day, in twelve of thirteen cases reaction followed the giving of the arsphenamin through the new tube, and no reaction occurred in nine cases in which arsphenamin was given through the old one. On the second day, arsphenamin given through the new tube of the previous day produced chills in three cases, nausea in four, and headaches in six, of ten cases. Absolutely no reaction had followed fourteen injections of the same arsphenamin solution through the old tube. On the third day there were no reactions from either tube.

Dec. 8, 1919, seven months after this experience, it again became necessary to replace worn out tubing, and on this occasion also all the patients who received arsphenamin through new tubing the first day reacted markedly. On the second day, the reactions to the arsphenamin through the new tubing were slight. None of the patients who received the solution through old tubing had the slightest reaction. On the third day, all tendency to reaction disappeared.

These seemingly convincing demonstrations incriminating the tubing led us to make efforts to ascertain the cause of the toxicity and to devise methods for its removal or the abatement of its effects. A variety of hypothetic possibilities presented themselves:

1. Imperfect sterilization of a new tube might lead to bacterial contamination of the solution in passage through it. This was rendered unlikely by the continuance of the reactions into the second day, after two half-hour sterilizations by boiling. Careful washing, rinsing and irrigation of the tube, filling with water before sterilization, and the fact that all glassware and other equipment in the experimental material and controls was subjected to the same treatment, made the possibility of bacterial accident even more remote.

2. Talc dust or some insoluble powder introduced into the circulation by the current passing through the

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tube might be the cause of the reaction. This was rendered unlikely because of the careful washing and rinsing to which tubes are always subjected, and further by the fact that a new tube produced reactions in every instance (six cases) even after a powerful stream of tap water had been forced through it for twelve hours.

3. A reduction in the alkalinity of the arsphenamin solution passing through the new tube, giving the effect of an injection of slightly acid arsphenamin, might be responsible for the reaction. To oppose this possibility it was found that normal sodium hydroxid solution titrated 98 per cent. normal after tubing had been soaked in it over night. The reduction in alkalinity in a rapid passage through the tube must therefore be within negligible limits, and would not be manifest after the first or second injection.

4. The toxic substance, a constituent of the rubber, might decompose arsphenamin, rendering the drug itself toxic.

5. The toxic substance might induce colloidal changes in the arsphenamin solution.

6. The toxic substance per se might be dissolved from the rubber and introduced into the circulation by the solution passing through the tube.

In interpreting our investigations, the fact should be emphasized that the same brand of arsphenamin was used from the begining of our observations in 1918, and that we were thoroughly familiar with its behavior from experience in approximately 20,000 injections. Quantitative neutralizations, not visual end-point reactions, have been employed during the last eight months in the preparation of the solution. The sodium hydroxid was prepared for us by Kendall, and is standardized by titration and not by weight. The glass used was Pyrex or Jena, the water redistilled from glass, and the dilutions, rates, and conditions of administration closely approximated Public Health Service standards. Whenever comparisons between tubes were made, the conditions for both old and new tubes were kept identical. The tubing used by this service is sold as pure gum rubber tubing, and is manufactured by one of the largest and oldest rubber concerns in this country, so that the product probably is widely distributed over the United States. That a pure gum rubber tubing can be made which does not produce reactions, even when new, we ascertained in the course of our experiments (Fig. 1). About 80 cm. of tubing of an internal diameter of 4 mm. was employed in our work.

Fig. 2.—Series of photographs illustrating "tubing reaction" in the dog: Top, both animals alert and in good condition before injection. Center, both animals one hour after intravenous injection of 50 c.c. of approximately 0.18 per cent. solution of sodium hydroxid; the black dog received his injection through a used piece of rubber tubing, the white dog through a new one; the white dog has had a chill and vomited, the black dog is unaffected. Bottom, tubing reaction at its height; high fever, severe diarrhea and cramps, vomiting and depression; the black dog (old tubing) had no reaction whatever; in ten hours the white dog had completely recovered.

On further study of the reaction, these facts appeared:

1. Neo-arsphenamin, diluted 20 c.c. per decigram, as is our practice with arsphenamin, produced reactions when given through a new tube exactly as in the case of arsphenamin and of the same intensity, in spite of the lower intrinsic toxicity of the drug (six cases).

2. Soaking washed and sterilized new tubing fifteen minutes in neutralized or slightly alkaline arsphenamin solution just before administration caused the arsphenamin solution to produce reaction even when given through an old, nonreacting tube (six cases).

3. Using sodium hydroxid in which new sterile tubing had been soaked twelve hours, to make up the fresh arsphenamin solution for administration, did not make the arsphenamin solution, thus prepared, toxic.

4. Soaking new sterile tubing in acid arsphenamin solution and then neutralizing with fresh normal sodium hydroxid did not give rise to reactions.

5. The scrapings and dust mechanically removable from the inside of new sterilized tubing, even when present in sufficient amounts to produce visible turbidity in the arsphenamin injected through an old tube, did not induce reaction.

6. New tubing can be rendered harmless and incapable of producing reaction by soaking for six hours in normal sodium hydroxid solution.

From these observations it is suggested that:

1. The toxic substance is present in new tubes in sufficient amount to produce reactions in the patients receiving the first ten to twenty-five injections of arsphenamin given through a new tube 80 cm. in length within a period of two days. The reactions become less severe the longer the tube is used.

2. The toxic principle is not destroyed by boiling for one hour, is not soluble in water, and is not contained in the washings and mechanically removable débris from the inside of new tubes.

3. The toxic substance dissolves in or acts on neo-arsphenamin and arsphenamin when these drugs are employed in a dilution of 1 dg. to 20 c.c. of redistilled water.

4. The solution of the toxic substance or its chemical action is so rapid that merely passing 50 c.c. of the injection fluid through a new tube in four minutes will produce enough effect to give rise to marked reaction.

5. The toxic principle is removable from new tubing by soaking it in normal sodium hydroxid solution for six hours.

In order to ascertain whether the toxic agent is soluble in sodium hydroxid solution in the concentration in which it enters into the neutralization of arsphenamin (45 c.c. of normal sodium hydroxid per 5 gm. of arsphenamin per liter of water), we prepared a solution of 45 c.c. of normal sodium hydroxid per liter of water and ourselves received each 50 c.c. intravenously through a new sterile tube, with ensuing vio-

lent reaction. The toxic principle is, therefore, present in the dilute sodium hydroxid solution passed through the tubc, and can presumably be obtained thus for chemical study, although its stability in such solutions is not yet ascertained.

Striking success in our efforts to transfer the problem to animals has thus far been obtained in the case of dogs (Figs. 2 and 3). In them it has been shown that if the same dilute sodium hydroxid solution is given intravenously through an old tube to one dog, and through a new tube to another, the dog which receives it through the new tube reacts characteristically; the other shows no effect. If, a week later, the procedure is reversed, the reaction occurs in the dog who receives the solution through the new tube, although by the use of an old tube this dog escaped reaction the week before. There is, therefore, no mere idiosyncrasy at the bottom of the reaction, and it is not due to the alkali alone. Efforts are now being made to transfer the problem to rabbits for greater facility in physiologic testing. The dog will apparently respond with somewhat less intensity than man to a dose of toxic solution about seven times as great per kilogram.

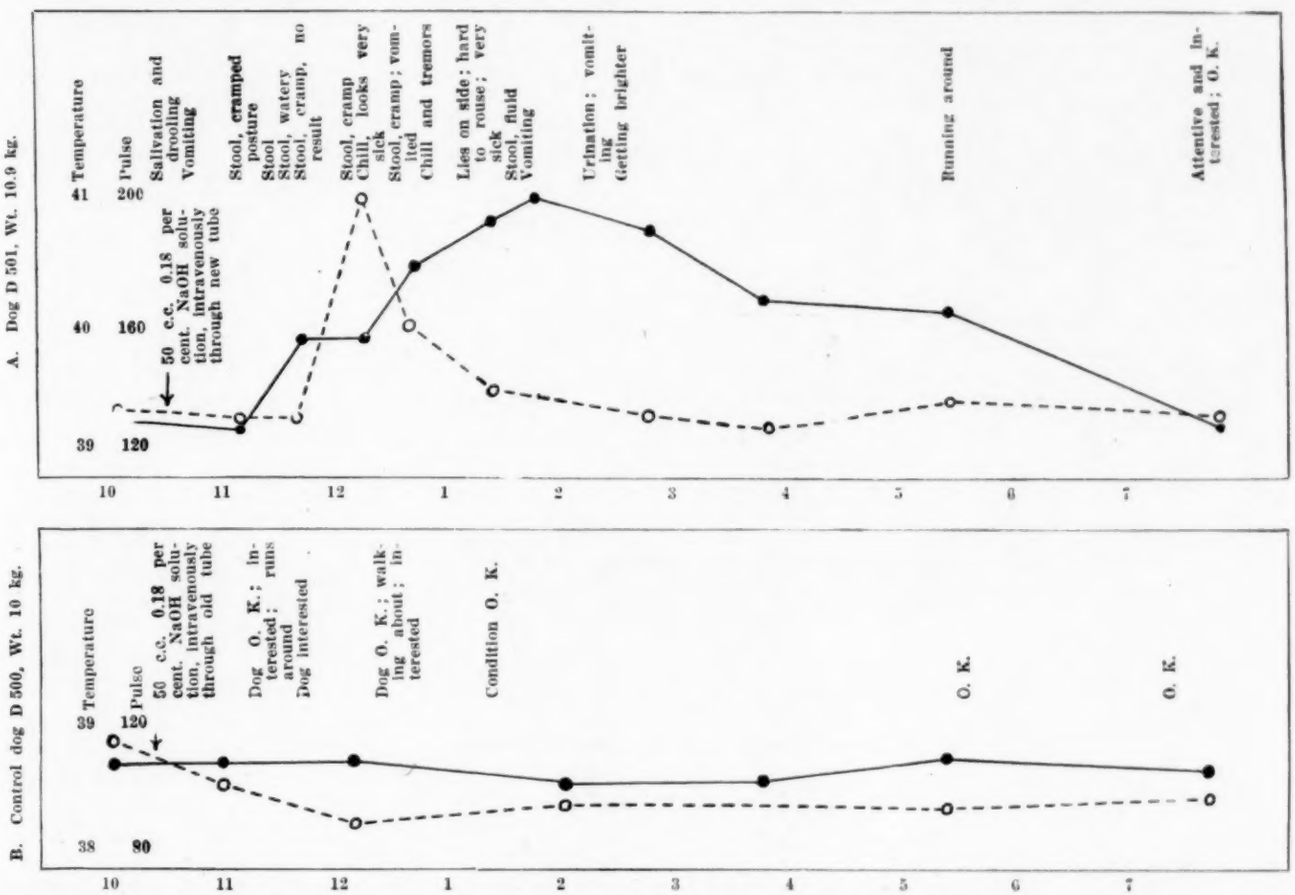


Fig. 3.—*A*, chart of tubing reaction in the dog following an intravenous injection of 50 c.c. of 0.18 per cent. sodium hydroxid solution given through a sterilized new "pure gum rubber" tube; note the chills, fever, vomiting, diarrhea, cramps and prostration characteristic of the reaction in man. *B*, chart of control dog, which received an equal dose of the same sodium hydroxid solution, but through a "pure gum rubber" tube that had been in use for some time; absolutely no reaction; solid line, temperature; broken line, pulse.

## DESCRIPTION OF THE REACTION

The "tubing reaction," as we shall temporarily designate it for lack of a better name, presents a highly characteristic clinical picture when of maximum intensity, but graduations into atypical and mild forms appear as the toxicity of a given piece of tubing decreases. In from thirty minutes to an hour after injection, an increasing weakness, with aching of the legs and back, is noticed, followed by a chill, often of great severity (Fig. 4). The chill may be the first symptom. Nausea and vomiting occur with violent cramplike pains in the lumbar region, and diarrhea with tenesmus. Headache is intense, and with repetition of the rigor there is a sharp rise in temperature, the fever reaching from 102 to 103.5 F., accompanied by varying degrees of emotional disturbance, and prostration. The temperature (Fig. 5) then usually declines to normal within eight hours, but the fever may persist for two or three days, and the headache, backache, gastro-intestinal disturbance and prostration may persist for several days to a week. Both of us developed a profuse crop of herpes following the reaction. We have seen one case of jaundice, but no renal complications. Considering the extremely pronounced and unpleasant character of the symptoms, the recovery in robust persons is rapid and complete. It is conceivable that the reaction in the debilitated, or when coupled with a Jarisch-Herxheimer reaction or an intolerance of arsphenamin, might have serious consequences. One of us (Busman) developed a leukocytosis of 14,600, with 94 per cent. polymorphonuclears at the height of the fever. The other (Stokes) had a white count of 5,600, with 92 per cent. polymorphonuclears. Both urines were normal. The pulse is likely to remain rapid for several days. Important symptoms may fail to appear or may assume unusual severity. The gen-

eral features of the reaction, however, run so true to form both in man and in the dog that they suggest the toxicologic action of a definite poison.

## COMMENT

While the use of pure gum rubber in all tubing employed in arsphenamin apparatus has been traditional in our technic, a careful search of the literature from 1910 to the present time has thus far failed to disclose specific reference to or authority for our practice. While the familiar references to "Wasser Fehler," "Salz Fieber," and to the possibility of minute quantities of lead and silicates being responsible for the erratic behavior of arsphenamin are common enough, we have been unable to find any evidence that the ingredients of rubber have been considered a potential cause of reaction in intravenous injection. From our study it is apparent, we believe, that even tubing marketed as of pure gum rubber may in the process of manufacture have acquired dangerously toxic properties, especially when used in the injection of alkaline solutions. That it is possible to make a gum tubing that has apparently no such toxic properties, and that soaking even toxic tubing in normal sodium hydroxid solution for six hours, followed by rinsing, removes the poisonous principle, points the way to a remedy. A review of the literature of arsphenamin reaction certainly suggests that this factor has been silently at work,[1] although to attribute the reactions described in any special reports to it, in the absence of data as to the tubing used, is only to indulge in speculation. Publication of our results may, however, stimulate further observation and serve, too, as a caution to those of us who are disposed to put the blame for every accident on either the operator's technic or the drug. The identity and toxicologic action of the cause of the reactions described will be made the subject of further communications, including a consideration of possible relations to transfusion reactions when tubing is employed for the conduction of blood and other reagents.

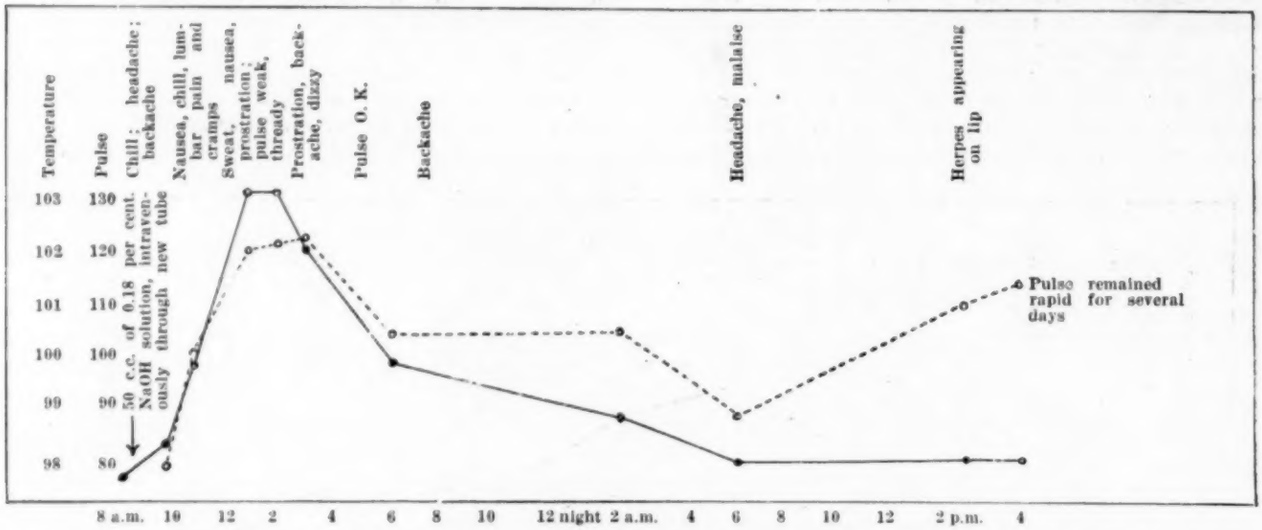
Temperature
Pulse
Chill; headache; backache
Nausea, chill, lumbar pain and cramps
Sweat, nausea, prostration; pulse weak, thready
Prostration, backache, dizzy
Pulse O. K.
Backache
Headache, malaise
Herpes appearing on lip
50 c.c. of 0.18 per cent. NaOH solution, intravenously through new tube
Pulse remained rapid for several days
8 a.m. 10 12 2 4 6 8 10 12 night 2 a.m. 4 6 8 10 12 2 p.m. 4

Fig. 4.—Chart of the reaction of one of the authors to an intravenous injection of 50 c.c. of 0.18 per cent. of sodium hydroxid solution given through a sterilized new "pure gum rubber" tube; the other author likewise received the toxic solution and had an even more severe and typical reaction, with vomiting, diarrhea and tenesmus; solid line, temperature; broken line, pulse.

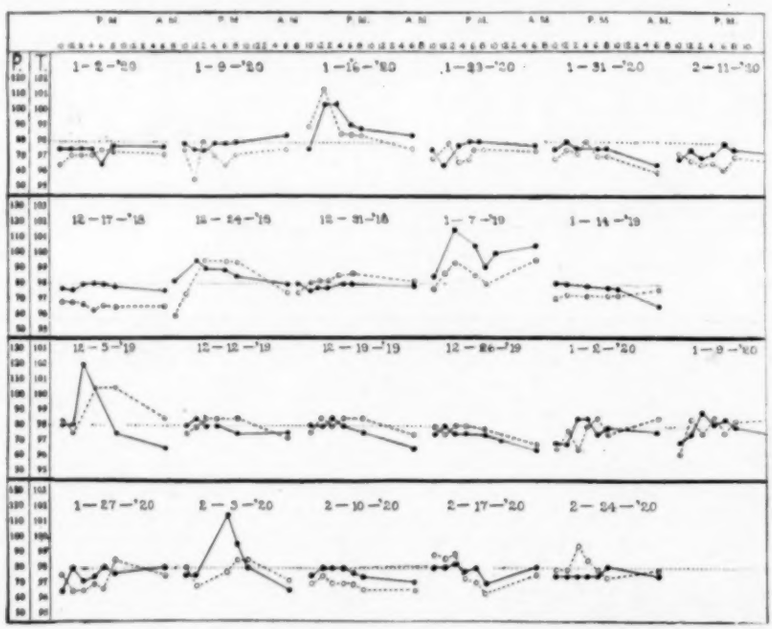

Fig. 5.—Charts of four patients who developed tubing reaction during their courses of treatment: Solid line, temperature; broken line, pulse.

## CONCLUSIONS

1. A certain widely distributed brand of so-called pure gum rubber tubing seems to contain, when new, a toxic agent responsible for a definite type of reaction following the intravenous administration of arsphenamin, and possibly also of alkaline solutions and transfusion mediums.

2. The toxic substance gradually disappears from the tubing on use.

3. The toxic substance is apparently removable in the first instance by soaking the tubing for six hours in normal sodium hydroxid solution and rinsing.

1. See, for example, the group of reactions reported by Guy at Camp Travis (J. A. M. A. **73**: 901-904 [Sept. 20] 1919) in which the description of the reactions experienced by thirty-five patients in a single forenoon tallies in almost minute detail with the tubing reaction as we have observed it.

4. The toxic property is not destroyed in the ordinary process of sterilization by boiling (from one-half to one hour), is not soluble in water or removable by irrigation, appears in toxic amounts in arsphenamin, neo-arsphenamin and dilute sodium hydroxid solution merely on passing them through a new tube en route from container to vein, and is not apparently associated with the mechanically removable débris from the inner surface of the tube.

5. The reaction induced by this agent, as obtained by the use of new tubing for intravenous injection of the substances mentioned, consists of chills coming on from thirty to sixty minutes after injection, with nausea, vomiting, diarrhea, a sharp rise of temperature, sweating, severe headache and lumbar cramps, emotional disturbance amounting at times almost to hysteria, and subsequent profound prostration.

6. The reaction can be induced in typical form in dogs.

7. The identity and toxicology of the poisonous principle are under investigation.

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## NONOPERATIVE DETERMINATION OF PATENCY OF FALLOPIAN TUBES IN STERILITY

### INTRA-UTERINE INFLATION WITH OXYGEN, AND PRODUCTION OF AN ARTIFICIAL PNEUMOPERITONEUM

PRELIMINARY REPORT *

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The value of oxygen in conjunction with the roentgen ray as an aid in the diagnosis of obscure abdominal conditions has been demonstrated in a number of recent publications. No ill effects have accompanied or followed the pneumoperitoneum produced by inflation of the abdominal cavity with oxygen gas. The tolerance of the peritoneum for oxygen even in large volume, and the fact that its presence can be detected by fluoroscopy and roentgenography have led to its use as a diagnostic procedure in determining patency of the fallopian tubes. If the gas injected into the uterus under certain measurable pressure would pass into the fallopian tubes, it ought to reach the general peritoneal cavity. In patients with patent fallopian tubes the gas would establish an artificial pneumoperitoneum identical with that produced when injected by direct abdominal puncture. In patients with occluded tubes no such result could be obtained.

Accordingly, experiments were carried out on extirpated uteri with the adnexa intact. In the first experiment it was readily seen that oxygen passed into the uterine opening of the tubes and then escaped through the fimbriated end. When the tubes were ligated or were occluded by pathologic processes, this did not follow. After determining the amount of gas required for our purposes, the first clinical application of the intra-uterine oxygen inflation was made, Nov. 3, 1919, at Mount Sinai Hospital. It was successful in proving the patency of the fallopian tubes in this first patient. The abdomen became visibly distended and the pneumoperitoneum was confirmed by the roentgenographic examination. The symptoms associating the gas inflation by way of the uterus were the same as those described for the method by direct abdominal puncture.

Encouraged by the result of the first trial, I tested it out in a series of thirty-five cases of sterility in which there were different clinical histories and physical findings. In this first series it was our endeavor to find out the limits of application, the quantity of gas to be employed, the time and rate of flow, and the reliability of the oxygen injected as a diagnostic procedure. In the second series of twenty cases, estimations were made on pressure. This has proved a valuable adjunct. Altogether, fifty-five patients were examined by means of oxygen inflation of the uterus. There were absolutely no untoward symptoms or sequelae. The patients with two exceptions were ambulatory, and were allowed to go home from within a few minutes to a half hour after examination. Two cases were from the hospital wards. The patients were all followed up and carefully examined for complications, none of which have to the present writing appeared.

In some cases the result confirmed our clinical diagnosis of probably closed or patent tubes. In a number of cases the tubes were proved to be open when we had reason to suspect they were closed by disease, while in others the tubes were demonstrated to be occluded when we had believed them to be normal. The method had practically the value of an exploratory laparotomy for purposes of determining the continuity of the lumen of the fallopian tubes. The two possible dangers, namely, embolism and infection, are more theoretical than actual.

Embolism from oxygen introduced into the uterus in a stream of discrete bubbles never occurs, and infection need never occur if the cases are not acute and are properly selected. In fifty-five cases which form the basis of this preliminary report, there were no symptoms even suggestive of a possible peritoneal irritation, although some of them had presented gross pathologic conditions before the examination was made. These questions, with the case histories, will be more fully discussed in a future communication.

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**Children's Year: Looking Backward and Forward.**—In thirty-eight states the Children's Year child welfare committees have planned to "carry on" with the cooperation of the Children's Bureau; in thirty states child hygiene divisions have been established, and in sixteen states child welfare commissions have been appointed. The end of Children's Year was marked by an international child welfare conference in Washington, at which minimum standards were drawn up, discussed in eight regional conferences throughout the country, and put into final form by an advisory committee formed for that purpose. These standards cover the fundamental needs of maternity and infant care; of the preschool and school child; of the child in need of special care; of the child at work; and of the economic and social bases for these standards. The standards for the protection of maternity and infancy are already crystallized in the Sheppard-Towner maternity bill now in Congress. This bill would make available to all mothers public health nurses, accessible hospital care and medical attention; consultation centers; teaching and practical demonstration in hygiene of maternity and infancy, and the household arts essential to the well-being of mother and child. One hundred and thirty-four children's health centers were established in fifteen states; in nine other states they were reported but the actual number not given.

# GENERALIZED NEUROFIBROMATOSIS

## WITH REPORT OF A CASE

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Generalized neurofibromatosis, as a special class of multiple neuromas, was first described by von Recklinghausen in 1882. It has since been called "von Recklinghausen's disease." Pathologically, it is a type of fibroma, apparently taking origin from the connective tissue of the nerve strands. Nerve trunks, roots or individual peripheral nerve fibers may be involved; and different fibers of the same nerve, as well as derivatives of many different trunks in a given area, may exhibit lesions. The swellings may be near the skin surface, in the case of the peripheral nerves, or deeply buried in the tissues, and at any distance from the point of origin of the trunks. In shape they are often short and bulbous, or long, tapering and pyriform. Projecting above the plane of the skin surface, they appear as small, flattened, sessile tumors; long flattened pendulous taperings, or knobby, warty, gnarled formations. "Neuroma racemosum plexiforme," or "elephantiasis congenita" (Barker) are among the names applied to the condition. Often "rolling palpation" will detect numbers of the smaller swellings, too small to be seen on ordinary inspection, just below the skin surface. According to von Recklinghausen,[1] the tumors originate in the endoneurium of the nerve trunks in the subcutaneous tissue.

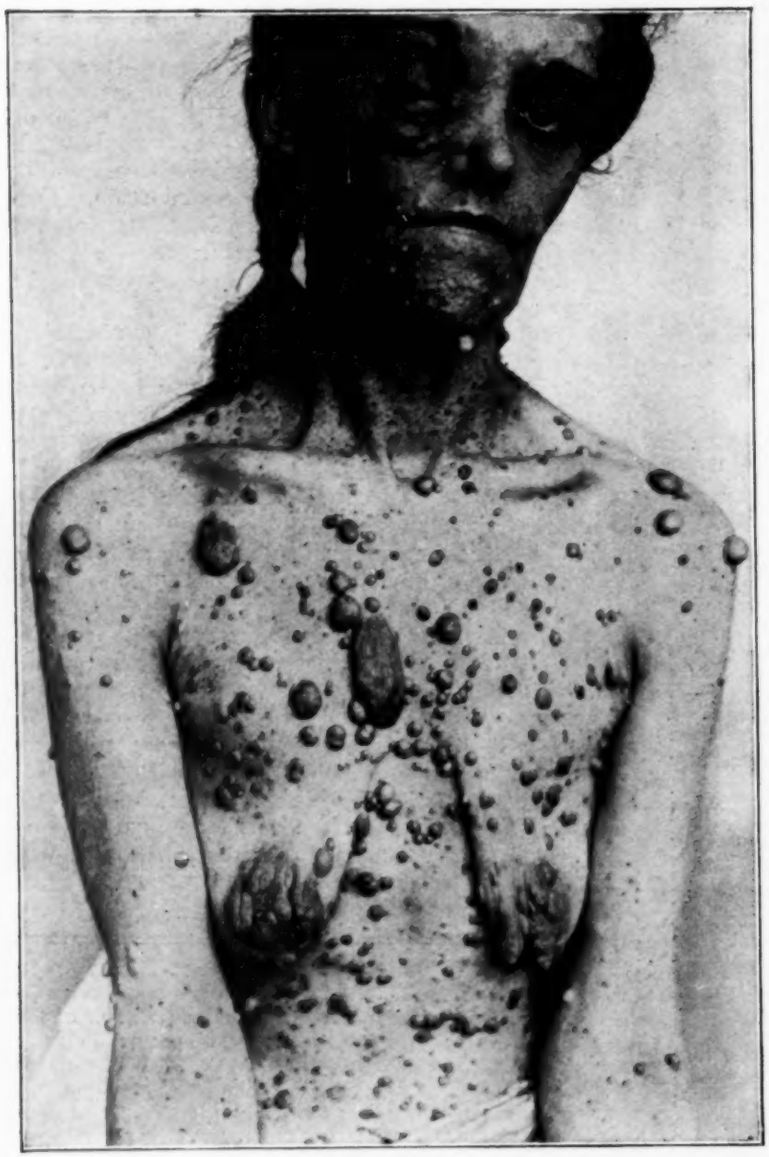

Fig. 1.—Involvement of the right eye, with drawing of the mouth to the left, lagophthalmos, and collapse of the ala nasae.

Etiologically, nothing is definitely known except the presence of a congenital predisposition. According to Osler, the tumors are believed to originate in the neurilemma (sheath of Schwann), because of the fact that the "olfactory and optic nerves, which are devoid of this sheath, have never been found affected with neurofibromatosis."[2] This is somewhat at variance with a statement by Barker[3] to the effect that "it is this tumor that affects the nervus acusticus at the cerebellopontile angle; the nervus trigeminus is also frequently involved." Osler mentions the report of a case by Prudden, with nearly 1,200 tumors distributed on the nerves of the body, and says that "fibroma molluscum multiplex" is a term that has been applied to the peripheral cutaneous form of the disorder.

Ganglioneuromas, the true type of nerve cell tumor, contain and are largely made up of ganglion cells. They are largely confined to the sympathetic system and the chromaffin system, often in the region of the suprarenals. The tumors presented in this report, however, are largely those of connective tissue framework origin.

They have certain interesting and fairly characteristic findings. Persons affected have a peculiar tendency toward pigmentation of the skin, irregularly distributed, and much accentuated over those areas normally containing pigment cells. Nevus formations, both of the capillary and of the cavernous type, are common, and Harbitz[4] considers them a feature of the disease. Neither pigment nor nevi seem to elect the mucosa of the oral cavity. Typical tumor groups are soft, velvety, semifluid masses, pinhead to pigeon egg in size, and feel to the palpating finger much like a soft, overripe, small grape. Below the skin surface, they are more often smooth, elongated swellings along the nerve trunks, easily detected by soft, uniform, gliding palpation with the palm. When evenly distributed, in considerable numbers, they give the affected part a swollen, edematous appearance, wherefore, probably, the name "elephantiasis neuromatosa." Any portion of the nerve, from the ganglion cells of origin to the periphery, may be involved. The symptoms produced, therefore, depend more or less on the anatomic locations. These patients are prone to mental

1. Von Recklinghausen: Ueber die multiplen Fibrome der Haut, und ihre Beziehung zu den multiplen Neuromen, Berlin, A. Hirschwald, 1882.
2. Osler, Sir William: Principles and Practice of Medicine, Ed. 8, 1914, p. 1027.
3. Barker, L. F.: Monographic Medicine 4: 564, 1916.
4. Harbitz, Francis: Multiple neurofibromatosis (von Recklinghausen's Disease). Arch. Int. Med. 3: 32 (Feb.) 1909.

change, with loss of or weakened memory, both for recent and past events. Sometimes there is pronounced speech difficulty, caused, in all probability, by interference with innervation.

### REPORT OF CASE

The patient whose pictures accompany this report is a woman about 38 years of age. She is mentally alert, but has an exceedingly poor recollection of events one or two days past. She is exceedingly irritable and hypersensitive, refusing any sort of examination except in a closed room. Trifles serve to throw her emotional nature into wild play, and at times she is much like a child of 4 or 5 years. She has some speech difficulty, though there is no demonstrable involvement of the recurrent laryngeal or superior laryngeal nerves.

According to her statement she was a normal child until about 6 years of age. At that time a small nodule appeared in the skin under the left mandible, grew rapidly for a time, and then stopped. It has now been far outdistanced by those appearing subsequently, but still remains the same size. There are now more than 3,000 various sized tumors on and below the skin surface, though the photographic details are insufficient to show the smallest ones, or those that lie just below the corium. The patient is one of five children, one brother having the same condition in much less degree. One paternal uncle is said to have had a similar affection. Otherwise the history is negative.

A number of representative tumors were subjected to microscopy, but no tissue that could be construed as of nervous or ganglion-cell origin was found. No frank evidence of malignancy or excessive proliferation was found, though some cell elements were suggestive of sarcomatous (as opposed to carcinomatous) change, being large and spindle shaped, with karyokinetic and double nuclear changes. The type cells were rather large, puffy, succulent fibroblasts, unstratified, but thin and elongated in the region of the pedicle. Unna's[5] large mast cells were not found. Blood vessels were very few in number. The larger and presumably younger fibroblasts were grouped and bunched by numerous fibrous connective tissue septums, the whole surrounded by a sort of capsule quite separate and distinct from the overlying basement membrane of the epithelial surface. The intervening space was comfortably filled with an accumulation of fat cells, increasing at the base until only a very dense, thin fibrous connective tissue stalk penetrated the plane of the normal skin surface. These fibrous cords, in six instances, were followed below in the attempt to find their origin, but no definite conclusions could be reached, since they immediately spread out umbrella-wise, mingling with the fibers of the superficial white connective tissue fascia. The entire body surface was studded with these tumor masses: scalp, back, chest, abdomen, extremities and genitalia. Pictures of the latter were not obtainable though involvement was largely confined to the labia minora, which were excessively large and pigmented. The attempt to reproduce the chief involvement of the extremities, that of the right foot, was, for a time, futile. Strangely, she did not object to being photographed, front and back, thus illustrating what is meant by "mental eccentricity."

As is shown in the illustrations, there is a decided tendency toward grouping about the pigmented areolar areas of the breasts, where the protecting skin is disproportionately thickened, and a uniform trend toward pedunculation exists. A glance at the shoulder girdle, front and back, shows a number of the small warty excreseences which are quite often found in persons, above the age of 40, of the dark skin, fatty, pigmented type. In those persons there are seldom more than three or four tumors; but the question may be raised as to whether or not many more of these than are diagnosed are really mild fibromatoses. The diagnosis is readily made in the presence of many tumor nodules, but is this a prerequisite to the diagnosis? It must be admitted that the "feel" of the occasional and scattered nodules is quite different from that of the well developed cases, but it is probable that the incidence of early fibromatoses is higher than commonly it is supposed to be, since there is a factor of self limitation in their growth.

Along the margin of the right scapula is a mass the size of a hickory-nut, heavily pigmented and consisting almost entirely of a cavernous angioma. The profusions of vessels here, contrasted with their scarcity in most of the other masses, raises the question as to whether they are of the same type in different stages, or entirely different and coincidentally developing types.

Fig. 2.—Involvement of the skin of the back.

Usually this patient is not inconvenienced in any way except by the mental anxiety. Sudden temperature changes, however, produce tingling, and a feeling of tenseness and swelling in the nodules. Sudden mental stress, anxiety or anger produces the same result.

There is no evidence of intracranial pressure. The right olfactory, optic, oculomotor, trigeminus, facial, and the cochlear branch of the eighth cranial nerves, however, appear to be involved.

A wide variety of distinctive odors was readily recognized without hesitation, but thorough cocainization of the mucosa

5. Unna: Histopathology, p. 847, quoted by Ormsby, O. S.: Diseases of the Skin, Philadelphia, Lea and Febiger, 1915, p. 601.

of the left nostril high up produced much confusion, on several occasions, leading to complete errors in identifying substances formerly very familiar.

Perception of light remains only on the right side, dating from the age of 6, or thereabouts, and coincident with the development of the first tumor masses remembered. At that time the right visual field began to diminish steadily, until in a short time only the present amount of vision remained. The left fundus and visual field are normal. The right fundus shows merely a small, pale, atrophic disk. There is no edema or change in the retinal vessels. No change in the intensity of a point of artificial illumination is perceived by either the right or the left half of the right retina, suggesting a lesion anterior to the optic decussation. Coordination of the ocular bulbs is markedly disturbed, and while the right external rectus and superior oblique retain practically their full power (the fourth and sixth nerves), the remaining extrinsic eye muscles (the third nerve) are quite unbalanced; the eye rolls aimlessly, and on attempt at forcible closure of the lid, deviates out and upward (Bell's phenomenon). The bulb is considerably proptosed. The upper lid hangs loose and flaccid over it, and cannot voluntarily be raised. The lower lid is in mild ectropion. The drooping of the upper lid was first noted a year after the initial disturbance of vision on the same side, and has gradually increased. The right pupil is widely dilated, very slow both to light and accommodation, and does not exhibit the consensual reaction. Therefore a paresis of the third nerve is suggested.

The patient is unable to elevate the frontalis muscle, which speaks for a peripheral lesion of the seventh nerve (Bell's paralysis), since in central lesions of this nerve the power of the frontalis muscle is largely retained. The nostril of the same side is patently collapsed. Taste, however, is undisturbed over the entire tongue, and the right submaxillary and sublingual glands secrete normally, and respond to atropin, suggesting that the chorda tympani is undisturbed by the lesion affecting the seventh nerve.

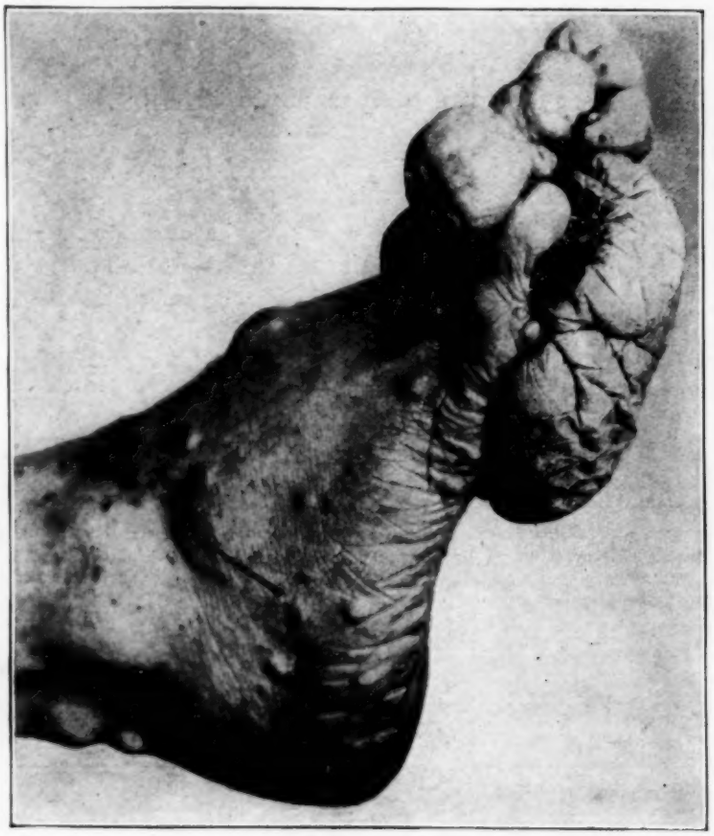

Fig. 3.—Enormous tumor mass on the right foot.

About two years after the initial disturbance of vision, the right side of the face became softened and "looser"; the buccal wall was occasionally bitten, and food collected in the cheek pouch, suggesting involvement of the buccinator nerve (a branch of the third division of the trigeminus) as well as the facial nerve. The mouth is drawn somewhat more to the left than appears in the illustrations, and the right eye could not be forcibly closed, thus indicating a seventh nerve lesion. The area served by the sensory portions of the maxillary and mandibular divisions of the trigeminus is now relatively insensible, except to extreme degrees of stimulation. The area of the ophthalmic division of the trigeminus appears normal, since the lacrimal glands of the right side secrete normally and respond to atropin, and the areas of distribution of the frontal and supra-orbital nerves (branches of the ophthalmic nerve) are sensitive to ordinary stimuli.

More than a year after the trouble with the face came the first intimation that the patient was becoming deaf in the right ear. According to her statement, no increase of deafness has been noted since that time, although such belief is not based on any accurate tests. The type of the present deafness is that for high tones. Sounds in the moderate wave lengths are detected with little difficulty, provided attention is concentrated on them. There is reason to believe that even in the moderate amplitudes, tone "islands" are present; but extended detailed examination was refused. The accompanying table gives the results of the sound-conducting and sound-perceiving apparatus. The minus quantities, in parentheses, signify that time below the normal ear. All timing and distance measurement is accurate. A combined deafness of the right side is of course suggested, but the great preponderance is on the side of the nerve.

SOUND CONDUCTING AND PERCEIVING

| Test | Right | Left |
|---|---|---|
| Rinné | + (Bone < normal) | + (Bone = normal) |
| Weber | | + |
| Dench | + (—5 seconds) | + (—3 seconds) |
| $C_4$ | + (—18 seconds) | + (—3 seconds) |
| Voice (moderate low) | 32 feet | 44 feet |
| Acoumeter | 2 feet | 41 feet, 4 inches |

So far as can be determined, the vestibular portions of the eighth nerve and its connecting tracts are normal. Normal falling, vertigo and past-pointing result from both the stimulation of turning, and douching. The right nystagmus is very confusing because of lack of control of the extrinsic muscles, the rolling of the bulb making decisions regarding nystagmus unsatisfactory and contradictory.

Figures 3 and 4 are views of the right foot, which is the most extensively involved of any of the extremities. The fourth toe is lost in the maze of redundant tissues, although the phalanges are readily palpable, and appear normal on the roentgenogram. The thick pad on the sole is devoid of the sensation of pain, except that deep pressure produces a dull ache. Other sensations are normal. The skin is soft, thin and but little calloused, while the mass feels much like a large varicocele. The patient states that the malformed portion of the foot seldom sweats. Except for the mechanical inconvenience in walking, no discomfort is experienced. All reflexes and sensory tests on both feet are normal.

There is nothing in the general physical examination to suggest involvement of the cord tracts or the peripheral spinal nerves. Proctoscopic examination in search of the rectal tumors described by Cooke[6] reveals nothing of importance. The blood and spinal fluid Wassermann tests, after provocative treatment, are negative. The gold chlorid curve shows nothing suggestive at either end of the scale. The general deep and superficial reflexes are neither sluggish nor exaggerated. No atrophy, fibrillary twitching, paresis, trophic changes or reaction of degeneration could be demonstrated.

6. Cooke: Am. Med., Nov. 21, 1903, p. 818.

COMMENT

Allowing proper latitude for a history, in its bearing on a relatively remote period, it would seem that the involvement of the cranial nerves began early, and first with those lying anteriorly. The fourth, motor fifth (portio minor), sixth, vestibular eighth, tenth, eleventh and twelfth cranial nerves appear untouched. According to Bassoe and Nuzum,[7] "the fifth and eighth cranial nerves are those most frequently involved within the skull, but when we include all the peripheral nerves the order of frequency seems to be: vagus, abdominal sympathetic, sciatic." In this case none of this triad could be proved abnormal. The involvement of the right side has been apparently regular, successive, and to a degree, at least, self limited. Repeated efforts to implicate the hypophysis in connection with the eye disturbance, by means of functional tests and gland feeding, proved unsuccessful. There are, moreover, no skeletal or soft tissue stigmas or other signs of any endocrine dyscrasia.

In the absence of necropsy, not many deductions are justified. However, "it may be recalled that, unlike all the other cranial and spinal nerves, the optic and olfactory are devoid of the sheaths of Schwann, and of the cells giving origin to the same." [8] If the involvement of the first and second cranial nerves in this patient is due to the same type of tissue change seen on the external surface, it would seem that the sheath of Schwann plays a part of immensely minor importance in the etiology of the disease. This brings up the question of tuberous sclerosis, which is beyond the scope of the report.

201 North Main Street.

7. Bassoe, Peter, and Nuzum, Frank: J. Nerv. & Ment. Dis. **42**: 785 (Dec.) 1915.

8. Adami, J. G.: Principles of Pathology—General Pathology, 1910, p. 715.

Fig. 4.—Enormous tumor mass on the right foot.

**Mothers' Pensions**—According to a bulletin entitled "Laws Relating to Mothers' Pensions," just issued by the Children's Bureau of the U. S. Department of Labor, thirty-nine states, Alaska and Hawaii now have some public provision for mothers left with young children to support, and in at least five of the remaining states, mothers' pension laws have been under consideration. Canada, Denmark and New Zealand also have passed legislation providing aid for mothers. Generally speaking, all mothers' pension laws provide for the payment of a stated weekly or monthly sum for each child under a certain age to mothers who are dependent on their own efforts to support their children, and are morally and physically fit persons to bring up their children. There is considerable variation in the laws in force in the different states. Some states provide pensions only for widowed mothers; others include women who are divorced or who may have been deserted by their husbands, or those whose husbands are in prison, in state asylums, or who are otherwise incapacitated.

# OXYGEN INFLATION OF THE PERITONEAL CAVITY

## A PERSONAL EXPERIENCE

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In an article by Stein and Stewart [1] on the roentgen examination of the abdominal organs following oxygen inflation of the peritoneal cavity, the roentgenograms were sufficiently beautiful to justify the moderate claims for the method as an aid to diagnosis in obscure abdominal conditions. The article referred to its employment in some eighty cases, and the bibliography embraced a number more. The authors' series of cases furnishes apparently the only instances of the deliberate employment of the method for diagnosis only, the other articles referring to its more or less casual use after laparotomies, paracenteses, and as a therapeutic agent in tuberculous peritonitis. However, the results of its use were in all cases at least innocuous.

It at once occurred to me that the method described offered a brilliant opportunity for a demonstration of the effect of posture on the internal organs. It is known in some circles, and halfheartedly admitted in others, that posture has a definite effect on the position of the liver, kidneys, colon, etc. Almost any one will grant that a person standing in a slouchy attitude, with the chest flat, back hollow, and abdomen prominent, is more likely to suffer from floating kidney or intestinal stasis, for example, than one who stands erect, aerates his lungs, and gives his viscera at least a modicum of outside support. In reality, however, such a patient stands small chance of this theory being put into practice until the appendix has been removed, the floating kidney anchored, and possibly the mesentery plicated. If the patient is a woman, the operative possibilities are still more fascinating.

Abdominal palpation is unsatisfactory and almost impossible in the erect position, besides being a means far too susceptible to individual prejudice and variation. If we might show, however, a roentgenogram of the liver forced well up against the diaphragm, and the spleen and the kidneys back in their respective beds, all brought about by a change in the erect attitude, the demonstration would be as nearly final as one could ask. I therefore determined to make the first experiment of a series on myself, as I was confident of my ability to assume the desired attitude. I inquired from Dr. Stewart as to the possible disagreeable effects

1. Stein, Arthur, and Stewart, W. H.: Ann. Surg. **70**: 95 (July) 1919.

of the injection on the patient, and was told that it naturally produced a sensation of distention and occasionally some pain between the shoulders, but that these symptoms never lasted more than twelve hours, or over night, and indeed were usually confined to the aged and very nervous. It was his routine to give one eighth grain of morphin about an hour previous to the injection. The quantity of oxygen was no longer measured by the rubber bag, but was injected directly from the tank. The pictures might be taken within a few minutes, allowing time only for the sufficient dispersion of the gas about the abdomen. The bowels were evacuated in the morning, the usual breakfast and practically no lunch being taken.

Dr. W. F. Cunningham kindly consented to make the injection for me. The point selected was at the outer margin of the left rectus muscle, about one inch below the level of the umbilicus. No preliminary morphin was given. The skin and fascia were infiltrated with 1 per cent. cocain hydrochlorid. A No. 16 trocar and cannula was then introduced through a minute skin incision. No pain whatever was felt from the passage of the trocar. The trocar was withdrawn and the cannula connected with a rubber tube leading from a bottle of hot sterile water, which was in turn connected with the oxygen tank. The tank was then turned on and the oxygen allowed to flow slowly through the warm water into the peritoneal cavity. There was no sensation at first. After two or three minutes, bubbles could be felt gurgling about. After ten minutes, liver and splenic dulness was obliterated, and a fairly marked sense of distention became apparent. Turning slightly from side to side seemed to facilitate the dispersion of the gas. In about fifteen minutes a dull, aching pain began between the shoulders, and the injection was discontinued. At this time the abdomen, from having been almost scaphoid, was no more than flat. There was no appearance of distention. It was tympanitic all over, the lumbar gutters being the last regions to become so. Splashings and gurglings were apparent on auscultation. There was no alteration in respiration or pulse rate, which remained at 72. The blood pressure was not recorded. The first roentgenogram was taken in the supine position on the operating table, and seemed to show a fairly uniform dispersion of the gas, not however, as clearly as had been expected.

Fig. 1.—The slouchy attitude.

I then stood up. Rising was performed slowly and with assistance and was no more than uncomfortable. Anteroposterior roentgenograms were taken in the slouchy and the erect attitudes, and immediately afterward photographs were taken in the same attitudes, to accompany the roentgenograms and to contrast with the same poses taken before the injection. Taking the pictures did not require more than ten minutes, during which time I was conscious of increasing epigastric distention and discomfort, which made me anxious to lie down while the roentgenograms were developed. They were not as satisfactory as had been hoped, so that I stood up again to have a second series taken. The act of rising this time was much more uncomfortable, and I was conscious that the discomfort was increasing. While getting my clothes on and walking to the door, I found myself walking and holding myself with extreme care to avoid any jar.

As home was near by, it seemed as well to go there and lie down as to stay indefinitely in the hospital. When I came outdoors, the discomfort at once became much greater. The chest was held in midexpansion, and the breath was held as long as possible and expelled with a grunt. Inspiration was shallow, and the thoracic walls were held as rigid as could be, apparently in the effort to restrict the movements of the diaphragm. After I had walked one block very slowly the discomfort had become a pain, and the apprehension of being jarred or bumped had become extreme. It was literally fear lest a collision or decided jar would cause something to burst. The pain between the shoulders was increasingly severe. When home was reached, lying down at once gave great relief. The respiratory embarrassment disappeared. The sense of abdominal distention and oppression in the epigastrium remained. Four hours after the time of injection it was possible to sit up and eat a light supper. Any movement, however, was made with extreme care, and a resumption of the erect attitude for any time caused a recurrence of the pressure on the diaphragm. Except for discomfort on turning, sleep was not interfered with.

The following morning I woke comfortable; but when I moved, the abdominal cramp at once returned. Dressing was attended with much discomfort, bending over to lace the shoes in particular being almost impossible. In going out to walk three blocks to the office, I at once felt very acute discomfort. It was impossible to walk at even a reasonable rate. The apprehension of a jar returned, and a new symptom appeared, extreme pain referred, as nearly as I can describe it, to the heads of both humeri, worse as a rule on the right side. I was never able to decide whether or not that particular pain was caused by the cold air or the added exertion of walking on the street. It was not caused by the usual degree of activity about the house. Standing and sitting in the ordinary position were excessively uncomfortable. Reclining in a Morris chair gave considerable relief, and while I remained quiet in that position, there was simply a constant sense of epigastric oppression. I could not appreciate any diminution in the volume of gas.

For ninety-six hours after the injection, these symptoms remained practically constant. Becoming as time wore on more familiar with the gas, and therefore more contemptuous of accidents, I finally discovered what could give relief. The most effective remedy for the continuous epigastric oppression was standing on the head. After a few seconds in that position the gas could be felt escaping from the subdiaphragmatic space and gurgling up into the true pelvis. Respiration then became at once easy, and the cramped sensation and abdominal distress disappeared. If I could then be lowered to the horizontal, and pillows placed under the sacrum to hold the lower quadrants higher than the upper, the relief might persist for some fifteen minutes. Any change of position, however, released the gas, and the pressure on the diaphragm recurred. Urination was not affected. Defecation became more frequent, three movements a day being the average, loose in character, accompanied by considerable gas. Movements were followed by slight and temporary relief. It may be of interest to note

that it was impossible to distinguish by sensation between gas within and gas without the intestine. Appetite was increased, but probably because its satisfaction produced so much discomfort as to make a full meal inadvisable. There were, however, two or three sudden attacks of hunger, very much like the hunger pain of chronic dyspepsia, which were relieved by a few crackers and a glass of milk. The pulse rate was never appreciably altered. Respiration was increased by exposure to cold and exertion. There was no evident change in color from oxygen absorption.

The gas was absorbed—or at least the symptoms of its pressure disappeared—quite suddenly on the fourth day after the injection. Gas bubbles could still be felt on the fifth and sixth days, but their presence was not sufficient to cause noticeable symptoms. During the first four days I should have been grateful for the opportunity to spend my entire time in bed. Short of being totally incapacitated, I have never undergone such an uncomfortable, painful and thoroughly disagreeable experience.

I am putting this experience on record not because I wish to discourage the employment of the method, the importance of which has been already demonstrated, but because I can find nothing in the literature that might lead one to take into account the sensations of the patient.

I ascribe the wide variance between my own and the average experience to the fact that I was not, either before or after, a bed patient. I assume that the average subject is in a hospital for diagnosis, and that the oxygen injection is only one of a number of procedures, between and during which the patients are in bed or at least on their backs. Also a number of the previous experiments cited had been of a different nature—the oxygen having been injected after operation, after removal of a tumor or of fluid from the abdomen—when it was employed purposely to avoid too sudden a change in intra-abdominal pressure. Manifestly this would modify the severity of the subsequent symptoms. I cannot see that immediately getting up and walking about could have been responsible for their increased severity and prolongation, as they were relieved at once by lying flat or standing on the head. The effect was evidently, then, purely mechanical, and one would suppose that activity and constant shifting of position would promote rather than delay the absorption of the gas. The accompanying illustrations will show that the amount of gas employed was not excessive, and certainly produced no undue amount of distention.

Fig. 2.—The erect attitude.

## CONCLUSIONS

The experiment was a failure in regard to the purpose for which it was undertaken. In the erect position, the gas once having risen to the subdiaphragmatic spaces, it was impossible to exert sufficient pressure from below to force the liver up and squeeze the gas out. Contraction of the abdominal muscles from below upward also primarily reduced the space into which the gas could escape.

2. The actual injection of the gas was practically painless, and its presence in the peritoneal cavity was attended by none but mechanical disturbances incident to its physical volume.

3. These mechanical disturbances were of such an unpleasant and disabling nature that the method should not be employed without their due consideration. The patients should be warned of what they might reasonably have to expect, and be prepared to spend from three to four days in bed following the injection. In nervous individuals the consequences might be considerably more disturbing.

283 Lexington Avenue.

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# "ANTIPLASMA" *

C. C. BASS, M.D.
NEW ORLEANS

A so-called specific cure for malaria called "Antiplasma," made by the Malarial Specific Company of New York, was recently investigated by the Propaganda for Reform department of THE JOURNAL.[1] The ridiculousness of the claims were noted and the composition of the nostrum as determined by the A. M. A. Chemical Laboratory was exposed.

Under ordinary circumstances such a "remedy" would not warrant further notice: perhaps not even that already given. Since the stuff is being extensively sampled and in some instances, at least, sold under the most extravagant claims to physicians, druggists and others in some of the Southern states, further information about it may be useful.

Feb. 19, 1920, the "southern representative" of the Malarial Specific Company brought a boy to see me who had just finished taking the third course of treatment with this "specific cure." His blood had been examined before and during the treatment and found to contain malaria plasmodia by Dr. F. M. Johns. I took a specimen of his blood, examined it, and found many malaria plasmodia, some of which were shown to the representative of the company. The explanation then offered for this failure to cure was that in the first two courses of treatment a preparation made by the wrong formula was used, and the last time he took the medicine only six days instead of seven, as the directions on the bottle advise.

Feb. 13, 1920, Dr. R. D. Dedwylder, Ruleville, Miss., put two men, in whose blood malaria plasmodia were found, on the "Antiplasma" treatment. The treatment was completed according to the "direction on the bottle," and on February 21, blood specimens were again collected. In the meantime, one of the patients had a clinical attack of chills and fever on the fifth day of treatment. I have examined the blood of both of these patients, taken February 21, after completing the treatment. Each contains many malaria plasmodia.

It so happens that the patient seen in New Orleans had estivo-autumnal plasmodia; one of those in Ruleville had tertian and the other quartan. We have in these three cases a fair trial of the "cure" in one case each of estivo-autumnal, tertian and quartan malaria, with 100 per cent. of failures. The use of this product to the neglect of the absolute specific for malaria, quinin, will contribute to the continuation of the disease in those who have it, and to spread of the disease to others.

* From the Department of Experimental Medicine, Tulane University of Louisiana School of Medicine.

1. Antiplasma, J. A. M. A. 74: 618 (Feb. 28) 1920.

# Clinical Notes, Suggestions, and New Instruments

## REPAIR OF CRANIAL DEFECT BY NEW METHOD

REPORT OF APPARENTLY SUCCESSFUL CASE *

GEORGE NOBLE KREIDER, A.M., M.D., SPRINGFIELD, ILL.

*History.*—J. W. W., boy, aged 4 years and 5 months, residing near Bates, Ill., accompanied his grandfather, about 2 p. m., Nov. 18, 1919, to the barn lot where there were several horses. When the grandfather opened a gate, one of the horses ran out, and in passing kicked the child forcibly over the left eye. He was immediately taken to the house, where the head was washed off.

Dr. J. C. McMillan of New Berlin, Ill., was called. Recognizing the serious character of the injury, he applied a sterile gauze dressing and took the child at once to the Springfield Hospital, where he arrived about 4:30 p. m. There was immediate consultation.

*Examination.*—There was a lozenge shaped compound fracture; the fissure in the bone was about 3 inches long, and 1 inch broad, running down at each end to a point. It began near the outer border of the superciliary ridge and passed upward and backward over the frontal prominence nearly to the median line. Two large pieces of bone were indriven, causing loss of considerable brain substance.

*Treatment and Results.*—Under ether anesthesia, about six pieces of bone were removed. The two large fragments were inserted in a pocket, which was prepared in the left hypochondriac region, and was made by a slightly curved incision, nearly 3 inches long. The tissues were separated by artery forceps and scissors. The two pieces of skull bone were completely buried, and the incision was closed.

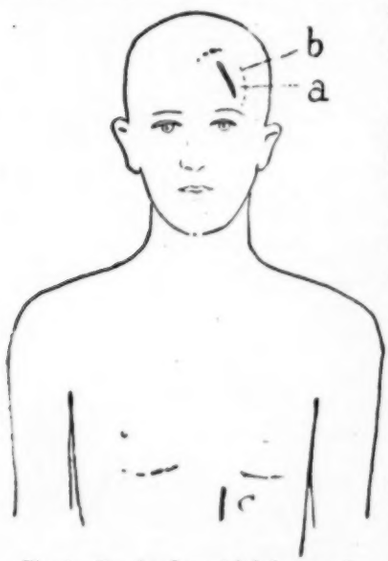


Fig. 1.—Repair of cranial defect: *a*, site of injury; *b*, line of incision for repair of defect; *c*, site of implantation.

The wound in the frontal region was thoroughly cleansed, a pledget of iodoform gauze was inserted in the cavity, and the edges of the wound were brought together, except at the ends.

Because of the circumstances under which the wound was received, a good sized dose of tetanus antitoxin was administered subcutaneously.

There was considerable oozing from the head wound, and slight fever; also, for a few days, edema of the left eye; otherwise the progress of the case was satisfactory.

November 29, under ether, the iodoform gauze was removed, and the edges of the wound were trimmed and brought closely together. The head was again thoroughly cleansed and permanent dressing was applied.

December 31, pulsation was visible and palpable where the bone was lacking. The scalp wound was solid except at one end where the mother had bumped it in putting the child on a chair at the dinner table. Final operation was deferred one week until this had healed.

Jan. 7, 1920, at 2 p. m., assisted by Drs. C. W. East and J. C. McMillan, I made a horseshoe shaped incision beginning one-half inch from the outer edge and to the left of the original wound, and extending to one-half inch beyond the inner edge of the wound, or about the median line. The scalp was laid back toward the eyebrow, beyond the defect in the cranium. The dura was found firm and solid, closing off the brain. The edges of the dura were lightly dissected. The two fragments of bone were taken from the pocket and placed exactly in their former positions. A considerable layer of fat had become fastened to the outer side of these bones during their sojourn in the abdominal wall, and this was utilized in sewing them in place with fine catgut. The large scalp flap was then brought over, completely closed with silkworm gut, and a firm dressing applied.

Fig. 2. — Implanted fragments of skull, approximate size.

January 14, the dressing was removed from the head for the first time. The new incision, which had been closed by silkworm sutures, was found to be perfectly dry. The line of first injury showed a pin hole opening at two points. There was a slight serous exudate, no pus was apparent, no pulsation was apparent and the bones seemed to be in good position and adherent. The abdominal wound was perfectly healed.

January 26, the wound was dressed and the bone appeared firmly fixed.

### COMMENT

Three points should be particularly emphasized:

1. The implants should be placed in the hypochondrium with the outer surface of the bones in contact with the fatty tissues in this region. When they are removed, as much of this fatty tissue as possibly should be brought out with the bones. When they are replaced, this tissue should be sewed with fine catgut to the epicranial aponeurosis and the implants secured in place.

2. Some writers seem to think it quite necessary to dissect the dura away from the edges of the defect so as to bring its exposed outer surface on a level with the inner table of the skull. This was not done in my case. Unless there is good reason for this extensive, and possibly useless, dissection it should not be attempted. Even though a slight protuberance may exist, it is better than a defect. The cranial cavity is firmly and hermetically sealed, which is the important point.

3. A new flap was made to expose the defect. When the implants were put in place and enclosed, as I have indicated, this new flap exerted a certain amount of pressure, and finally will depress the dura to its normal position.

### CONCLUSION

Usually, by implantation, it is possible to preserve the fragments of cranial bones for reimplantation when the original wound is in proper condition. The result in this case has been perfect recovery.

522 Capitol Avenue.

* Patient presented to the Sangamon County Medical Society, Feb. 9, 1920.

## A SIMPLE METHOD OF DISTINGUISHING WHITE FROM RED CELLS IN SPINAL FLUID CELL COUNTS

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While laboratory men who are looking at spinal fluids every day have no difficulty in quickly distinguishing between these cells without staining, clinicians of less experience will often find a differentiation troublesome, even with the high power. The use of acetic acid or Turk's solution has the obvious disadvantage of further diluting what may be a fluid of low cell count.

I have found no convenient method in the textbooks on clinical diagnosis, and the following procedure which, from its simplicity, is probably being used independently by many men, I have not seen described:

The fluid is taken in two test tubes. To one of these, containing about 2 c.c., is at once added one drop of Loeffler's methylene blue, and the tube shaken gently. The second tube is saved for other tests. Examination after two minutes

reveals the nuclei of the white cells staining distinctly, so that they may be easily distinguished from red cells by low power, and lymphocytes from polymorphonuclears by high power. If the stain is not acting quickly, two or three more minutes may be required, but never long enough for coagulation to affect results appreciably, except in a very heavy, turbid fluid.

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## COMBINED SCLEROSIS DUE TO ANEMIA OF THE PERNICIOUS TYPE: REPORT OF CASE

FRANK H. REDWOOD, M.D., NORFOLK, VA.

*History.*—Miss M. A., aged 48, a suit saleswoman, whose family history was unimportant except that a maternal aunt had died of tuberculosis, and whose habits were good, noticed, in April, 1919, that her feet burned constantly during the day and that she felt tired. Two weeks later she had a sense of numbness in both feet, and in the legs as far as the waist, and had some difficulty in walking. When I first saw the patient, September 12, she was confined to bed because she said she could not walk alone. She complained of numbness in the lower limbs, slight nausea for the preceding two days, constipation, and a severe pain in the lumbar region and legs whenever she moved. She said she had a sensation of something's turning over in the abdomen.

*Physical Examination.*—The patient was a well nourished, somewhat obese woman. She lay quietly in bed; when I attempted to examine her she cried out with pain; but when her attention was attracted she could be examined without difficulty. The muscles were flabby. The heart was normal, the pulse was 75 in the recumbent posture and 80 when the patient sat up. The systolic blood pressure was 120 and the diastolic, 70. The teeth were in poor dental repair, and several were suspected of being abscessed. The thyroid was not enlarged, the skin was rather dry, the tongue was slightly red, and the throat was normal. The chest and abdomen were negative.

*Neurologic Examination.*—The gait was paraplegic and spastic, the station was unsteady but there was not a true Romberg sign. All deep reflexes were quite lively, but equal on the two sides. The superficial reflexes were not elicited, but this was thought at the time to be due to a fat, loose abdominal wall. There were no ankle or patella clonus, no Babinski, Oppenheim, Chaddock, Gordon or Hoffman sign, and no Kernig sign. There was no astereognosis or adiadokocinesia. There was slight ataxia in the finger-nose test. All four extremities showed marked weakness. The pupils were normal in every way, as were the fundi. The cranial nerves were normal. The lower limbs showed small areas of analgesia or, rather, a delayed pain sense. Sphincter control was normal. Roentgenograms of the teeth disclosed four that were badly abscessed. The urine was normal, the blood Wassermann was negative, the spinal fluid was clear; there were 100 cells, but the globulin and Wassermann tests were negative. With the exception of 78 per cent. hemoglobin, the blood count was normal. Examination of the stools and the stomach contents was not made.

*Clinical Course.*—During October and November, the patient improved somewhat, and on repeated examinations the physical signs remained the same. During a period of twelve days in the latter part of November, I did not see her. December 2, I was called to the house and was amazed to find the patient in a serious condition. She was acutely ill, the skin was sallow or lemon colored, the mouth dry and parched and the tongue, sore. All deep and superficial reflexes were absent, and there was a Babinski reflex on the right side. Deep muscle sense was lost. There was an easily exhaustible ankle clonus. The patient had absolutely no control over the rectal or vesical sphincter. The blood count revealed hemoglobin, 72 per cent.; red cells, 3,280,000; white cells, 7,600. The differential blood count revealed polymorphonuclears, 71.5; small lymphocytes, 18; large lymphocytes, 4.5; transitionals, 5, and eosinophils, 1. The red cells showed a few nuclear bodies, anisocytosis and poikilocytosis. Two days later, red cells were 2,300,000, white cells 14,000, and hemoglobin 68 per cent. The patient grew rapidly worse and died, December 5. Necropsy was refused.

### COMMENT

Degenerative changes of the cord in pernicious anemia are quite common, but cases in which symptoms are referable to the cord are comparatively rare. This case is reported chiefly on account of the difficulty of a diagnosis before the rather sudden change in the physical findings. At the first examination, the blood picture was practically normal, the deep reflexes were increased, and there were no pathologic reflexes and no sphincter disturbances. Eight days before death, the blood picture was that of atypical pernicious anemia, the deep and superficial reflexes were absent, there was a Babinski reflex on the right side, and the patient had no control of the sphincters.

310 Taylor Building.

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## A CASE OF HUMAN ANTHRAX*

GERALD R. ALLABEN, S.B., M.D., BUHL, MINN.

Anthrax in man is still uncommon enough to warrant the report of a case.

*History.*—W. I. L., man, aged 18, Finn, clerk in a mining office, noticed a small nodule on the left side of the neck just below the ear. Swelling of the neck began immediately. The following day, he consulted the physician at the mine, and hot compresses were applied. Twenty-four hours later, when next seen by the physician, the symptoms had progressed rapidly, and the patient was brought to the hospital. He had a temperature of 104 F.; pulse, 130, and respiration, 28. There was extreme swelling of the neck and face extending around to the right side and down to the left breast, and marked edema of the throat involving the uvula. Breathing was embarrassed and noisy, and there was great difficulty in swallowing. The patient complained of no pain except the discomfort from the edema. Blood count revealed 26,000 leukocytes. The urine was negative. The lesion was about the size of a nickel, and distinctly firm and indurated; the edges were raised and dotted with small vesicles containing a clear yellow serum. The center of the nodule was depressed, dark and necrotic. Smears showed anthrax bacilli, some specimens showing the characteristic spore formation.

*Operation and Results.*—Under local anesthesia the nodule was thoroughly excised, the base was cauterized with 95 per cent. phenol (carbolic acid), and the surrounding subcutaneous tissues were injected with 5 per cent. phenol. A dressing of 95 per cent. alcohol was then applied. Cauterization was repeated twenty-four hours later, and alcohol dressings were continued. The patient's condition did not improve, however. The edema remained unchanged. The patient became restless and noisy; the temperature remained high, reaching 105 at the last; the pulse grew weak and more rapid; leukocytes increased to 42,000; and death took place just forty-eight hours after admission to the hospital, and four days from the onset of the infection.

*Comment.*—A specimen of blood, sent to the laboratories of the state board of health at St. Paul for culture was reported free from anthrax organisms. It would rather be expected that a positive culture would be obtained in such a malignant case, and with the degree of leukocytosis that was present. The treatment in this case, aside from the management of the local condition, was largely supportive. An attempt was made to secure antianthrax serum for administration, but it did not arrive in time. It is more than probable, however, that the serum would have had no effect on the course of the disease. It seems likely that a new shaving brush was the cause of the infection, as has been demonstrated in many of the cases occurring in the army cantonments. This patient had bought a new brush one week before, and had used it only twice, the last time being the night before the appearance of the nodule on his neck. The brush was secured, and sent away for culture, but was apparently destroyed without examination.

* From the Shaw Hospital.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - - CHICAGO, ILL.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - Five dollars per annum in advance

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SATURDAY, APRIL 10, 1920

## ACETYLSALICYLIC ACID (ASPIRIN) AND HEAT REGULATION

How largely the use of drugs is still based on empiric experience is now and then emphasized anew when scientific investigation directs its attention to the real mechanism of their action. This paucity of accurate information regarding the precise mode of action of many commonly used therapeutic agents is illustrated in the case of acetylsalicylic acid (aspirin). The drug is employed daily in medical practice, and has already attained the undesirable popularity of becoming a "household remedy" exploited daily in the public press and on the billboards. If a conscientious student of medicine were to have inquired only a few months ago regarding the details of the antipyretic manifestations of acetylsalicylic acid, his commendable inquisitiveness could not readily have been rewarded with accurate information. This is not due to the novelty in the use of acetylsalicylic acid, for the compound was introduced into therapeutics more than twenty years ago.[1]

Thanks to investigations conducted by Barbour[2] in the Department of Pharmacology of the Yale School of Medicine, its action on heat regulation has been somewhat elucidated. Unexpected is the unlike behavior exhibited by normal, in contrast with febrile persons toward the drug. In the former, a dose of 1 gm. or more of acetylsalicylic acid produced no significant difference whatever in the output of heat. This absence of augmented heat dissipation was observed despite the fact that the drug was evidently pharmacologically active, as shown by an obvious mild stimulation of the total metabolism by therapeutic doses in the majority of normal persons. Barbour believes that there is probably no change in the nature of the materials burned, for the results as a whole indicate that the drug, in this dosage, does not alter the respiratory quotient. Any tendency for the body temperature to fall is probably compensated for by the slight increase in heat production in the normal organism.

The observations on febrile persons, on the other hand, tell a different story. Acetylsalicylic acid, in 1 gm. doses, which have no such action in normal persons, exhibits a marked antipyretic effect in febrile, temporarily afebrile and convalescent subjects. Like other antipyretic drugs, it exerts its temperature-reducing action essentially by increasing the process of heat elimination. Barbour notes that although stimulation of the metabolism is not seen, as in health, there is at least no depression at all comparable in extent to the increase in heat dissipation.

Along with the altered heat regulation there is a tendency toward a decrease in the pulse rate. Temporary cardiac disturbances have incidentally been noted—a fact in itself warning against indiscriminate medication by the untrained. It is a striking fact that the sensitivity to the drug noted in fever may continue in the temporarily afebrile and convalescent persons, with resulting subnormal temperatures. "It is not allowable, therefore," Barbour writes, "to state that antipyretics reduce an elevated but not a normal temperature; a more correct formulation of the facts is that antipyretics reduce the body temperature in fever cases (including temporarily afebrile and convalescent phases) but not in normal persons."

Why a drug should provoke increased heat elimination in fever, but not in health, is not easy to understand. That the phenomenon is not due to a lack of combustible material in the sick, for instance, to a decrease in the glycogen store of the body, has been determined; for Barbour[3] has already demonstrated that feeding a carbohydrate, such as glucose, may actually enhance the fall in temperature when acetylsalicylic acid is given, rather than counteract it by increased metabolism. The precise nature of the peculiar sensitivity to such antipyretics therefore remains to be further elucidated.

1. Dreser, H.: Arch. f. d. ges. Physiol. **76**: 306, 1899.
2. Barbour, H. G., and Devenis, M. M.: Antipyretics, II, Acetylsalicylic Acid and Heat Regulation in Normal Individuals, Arch. Int. Med. **24**: 617 (Dec.) 1919. Barbour, H. G.: Antipyretics, III, Acetylsalicylic Acid and Heat Regulation in Fever Cases, ibid., p. 634.
3. Barbour, H. G.: Proc. Soc. Exper. Biol. & Med. **16**: 136, 1919.

## THE INFLUENCE OF NUTRITIONAL CONDITIONS ON TUMOR GROWTH

One of the striking differences between cancer and infectious processes is exhibited in their opposite modification by conditions of nutrition, either local or general. Ligation of the lingual artery is a classical procedure for reducing the rate of growth of an inoperable carcinoma of the tongue, but no one would recommend such a procedure in the treatment of any sort of infectious process in this location. Old age, deficient nutrition, loss of blood, chronic diseases, and intercurrent infections are all recognized as commonly reducing the rate of growth of tumors, and it is axiomatic that carcinoma in the young and well nourished is commonly characterized by rapid development to a fatal termination. Equally certain it is that the

effects of these conditions on most if not all known infections is exactly the opposite of what it is in cancer. While with human cancer occasional exceptions to the foregoing general rules are observed, it is probable that, could all conditions be controlled or evaluated accurately, the exceptions would be rare indeed. Cancer in experimental animals can be controlled and studied under more satisfactory conditions, and such observations as have been thus made support the generalizations that are commonly accepted concerning the influence of nutrition on growth.

Experiments in which the diet of animals has been restricted have commonly shown that deficient food intake reduces the rate of tumor growth. A dietary deficient in an essential amino-acid may reduce the growth rate of inoculated tumors, just as it decreases the rate of growth in young animals.[1] Diets deficient in vitamins reduce the rate of growth of tumors,[2] while vitamin-rich diets have been said to favor tumor growth.[3] As most of these experiments have been performed with inoculated tumors, which undoubtedly behave differently from spontaneous tumors, particular significance attaches to the observations of Maud Slye [4] on the influence of pregnancy and lactation on the behavior of spontaneous tumors in the mammary gland of mice. Thirty each of nonreproducing and of reproducing females with spontaneous tumors of the same type, alveolar tubular carcinoma of the mammary gland, were carefully studied and compared. Without exception the amount of tumor grown by a female while reproductive was strikingly less than during her nonreproductive period, despite the fact that the tumors were in tissues that are stimulated to great activity during reproduction. These exact observations corroborated what had been observed as a general principle in handling great numbers of other mice not accurately measured and watched as in this special study. As between reproducing and nonreproducing females, the difference in growth was remarkable. While the nonreproducing females lived rarely more than six weeks after the tumor was first observed, the average duration of life having been thirty-six days, the reproducing females frequently lived nearly a year, the average being 178 days, and many bore from six to eight litters. Especially remarkable are the figures for the rate of growth of the tumor as determined by frequent measurements, for in the nonreproducing mice the average daily growth was 999.4 c.mm., whereas in the reproducing females during the period of active reproduction, growth almost ceases, averaging in this series only 7.75 c.mm. After a reproducing mouse ceases reproduction, the rate of growth augments rapidly, so that the tumor may increase in size more in a few days than in as many months during reproduction. In the same mice that averaged only 7.75 c.mm. daily growth during reproduction, the rate after reproduction had ceased was 686 c.mm.

From these and other observations it would seem that while a tumor can withdraw for its own growth nourishment needed for its host, and evidently takes precedence over the somatic tissues in its affinity for nutritive supplies, the fetus in its turn takes precedence over the tumor, even as it does over the somatic tissues of its mother which it draws on for its nourishment, whatever the cost to the maternal organism. As Miss Slye says, the prolonged hiatus between pregnancies greatly complicates the study of the relation between pregnancy and tumor growth in the human species. During this prolonged hiatus the tumor may draw off the energy which would have continued to be used in reproduction if the pregnancies were not widely separated, just as is the case in mice kept constantly impregnated. This would account for any apparently conflicting testimony in human experience as compared with these studies. Finally, it is to be noted that in mice, as in women, infections in the pregnant are usually exceptionally virulent and usually quickly fatal, wherein we have another example of opposite biologic behavior of tumors and infections.

1. Sweet, Corson-White and Saxon: J. Biol. Chem. **15**: 181, 1913; ibid. **21**: 311, 1915. Rous: J. Exper. Med. **20**: 433, 1914.
2. Benedict, S. R., and Rahe, A. H.: J. Cancer Res. **2**: 159 (April) 1917.
3. Corson-White, E. P.: Pennsylvania M. J. **22**: 348 (March) 1919.
4. Slye, Maud: J. Cancer Res. **5**: 25 (Jan.) 1920.

## RECENT OBSERVATIONS ON THE CEREBROSPINAL FLUID

The cerebrospinal fluid has come to occupy an important place in modern clinical procedure. It is now frequently removed for diagnostic examination or therapeutic purposes; furthermore, the subarachnoid spaces which it occupies are sometimes utilized for the introduction of drugs intended to act on the nervous system. The determination of the mode of origin of the cerebrospinal fluid and its precise functions and physiologic relations to the various contiguous structures is obviously important. Unfortunately, the difficulties of experimentation in connection with this, as with many other parts of the central nervous system, have retarded progress. It need not be surprising, therefore, if some of the current views must be subjected to revision in the light of newer information or a more critical examination of beliefs already adopted.

One of the conclusions reached in recent years by a number of investigators, and already widely quoted, asserts that the cerebrospinal fluid is actively secreted by the choroid plexuses. Some writers believe that it is generated only within the ventricles, particularly the lateral ones, by a truly secretory process. It is pointed out that when the pathways by which the ventricles communicate with other parts of the brain are obstructed, the fluid collects so as to produce an internal hydrocephalus. Becht,[1] to whom we owe an unusually elaborate investigation of the subject coupled with a

1. Becht, F. C.: Studies on the Cerebrospinal Fluid, Am. J. Physiol. **51**: 1 (Feb.) 1920.

trenchant critique of existing views and evidence, has pointed out that the well-known facts of internal hydrocephalus do not prove the specific point of formation; for in the region under discussion, increased production of cerebrospinal fluid might result from activity of the choroid plexus, from stimulation of the ependyma cells lining the ventricles, from increased transudation from the capillaries, or from the formation of intracranial lymph: any one or all of these factors may be involved. Further, the rate of formation may be perfectly normal, the departure from the normal consisting merely in decreased absorption.

Another sort of evidence in support of the specific secretory origin of the cerebrospinal fluid has been sought in the observations that drugs and tissue extracts known to promote the activity of well recognized secretory structures, like the pancreatic glands, seem likewise to facilitate the output of cerebrospinal fluid. Why should not it, too, be placed in the category of the typical secretions? In answer to this, Becht has pointed out the close dependence of the pressure and flow of the fluid on the arterial and venous pressures that exist at any corresponding period in the skull; and according to him, all the changes in the fluid pressure and fluid outflow that have been offered as proof of the secretory mechanism of formation of the cerebrospinal fluid can be traced to alterations in these circulatory factors. If this is true, then the proof that the fluid is undoubtedly formed by secretion must be abandoned until more cogent evidence is produced for the participation of active cellular processes. While admitting that the choroid plexuses may represent one source of the cerebrospinal fluid, Dercum [2] ventures to believe that it has a further source in the general serous surfaces of its containing cavities.

Another upset of current traditions concerns the possibility of absorption from the subarachnoid spaces. If substances can be rapidly transferred to the nervous system by absorption from the cerebrospinal fluid, the possible importance of intradural injections in medication of the brain and cord is at once suggested. Meltzer [3] has come to the conclusion that such injections do not produce the typical effects of an intravenous injection; and Becht has been unable to demonstrate the absorption of potent drugs from the dural canal when they have been introduced with suitable care to avoid undue pressure or direct traumatic entrance into blood vessels. Coincidently, Dercum has asserted that "attempts at medication of the brain and cord through the subarachnoid space, as in the Swift-Ellis method, are unscientific, as substances introduced into the cerebrospinal fluid rapidly disappear by passing out through the arachnoidal villi and the lymph spaces without in the slightest degree penetrating the nervous parenchyma; the beneficial effects hitherto ascribed to the Swift-Ellis and kindred methods are due entirely to the incidental spinal drainage." He adds that medication of the nervous parenchyma must be attempted through the alimentary tract, through the skin, through the areolar tissue, or directly through the blood.

If we are to abandon some of the current beliefs regarding the production and escape of the cerebrospinal fluid, what shall be said about its rôle? Dercum regards it as "preeminently a fluid for the hydraulic suspension of the brain and cord; its function is essentially hydrostatic." Having a chemical composition essentially like that of an isotonic saline solution, it has no action on the tissues with which it comes into contact, and, if we may follow Dercum, it has no special function in the nutrition of the brain and cord, which takes place as does that of other tissues.

2. Dercum, F. X.: The Functions of the Cerebrospinal Fluid, Arch. Neurol. & Psychiat. **3**: 230 (March) 1920.
3. Meltzer, S. J.: Am. J. Physiol. **47**: 286 (Dec.) 1918.

## *Current Comment*

### PHYSICAL AGENTS AS PROVOCATIVES OF IMMUNITY REACTIONS

The well marked resistance of certain species to infection with germs usually harmful or fatal to others is commonly designated as natural immunity, because it seems to be "a natural biologic attribute of the species, as much a characteristic property as are its anatomic or physiologic properties." Immunity can also be acquired, notably after an attack of certain diseases. This "acquired immunity" is assumed to be a manifestation of some biologic stimulus or factor which at once differentiates it in some unexplained way from the usual responses of the organism to chemical and physical agencies. The hope of successfully inducing those reactions which are the basis of immunity of any type whatever rests on the possibility of analyzing the factors concerned and of imitating their functions. Several years ago, Murphy showed that there is likely to be an actual increase in the circulating lymphocytes, accompanied by hyperplasia of the lymphoid elements following cancer inoculation into immune animals. If this crisis was prevented by the destruction of the lymphocytes, the immunity of the animal was destroyed. By repeated small doses of roentgen rays, an animal could be practically depleted of lymphoid tissue without apparent injury to other important structures, and without detectable influence on the animal's general health. In such an individual, immunity was replaced by susceptibility to cancer inoculation. The beneficial response of the lymphoid tissue can be induced in animals by means of injection of living tissue. Murphy [1] has lately ascertained, however, that purely physical methods of heightening the activity of the lymphoid centers in the spleen and lymph nodes also are available. If single small exposures to roentgen rays of suitable quality are employed, a good response is secured. Furthermore, dry heat ranging from 55 to 65 C. applied to the whole animal for five minutes was found to produce a stimulation of the lymphocytes and of lymphoid tissue

1. Murphy J. B.: The Effect of Physical Agents on the Resistance of Mice to Cancer, Proc. Nat. Acad. Sc. **6**: 35 (Jan.) 1920.

of marked intensity, the increase in the number of lymphocytes persisting for a number of days. Murphy states, as the results of recent experiments at the Rockefeller Institute for Medical Research, that the lymphocytosis and lymphoid hyperplasia induced by these two physical agents are associated with an immunity to transplanted cancer equally as great as that arising from tissue injections. There is something more readily measurable and better definable in heat or in roentgen rays than in such vague somethings as are tissue extracts at present. To secure a wholesome reaction of possible far reaching importance in the body by means of such physical agents is a step in the direction of progress, however far it may still be from even speculation as to any application to human conditions. Murphy cannot state at present whether the tissue injection, the small dose of roentgen rays, or the dry heat induce changes in the organism other than those associated with increase in the lymphoid tissue which would account for the immunity; but the evidence now at hand points at least to the lymphoid tissue as an important agent in the immunity reaction to transplanted cancer of mice.

## BONDS NOT NECESSARY FOR PHYSICIANS

Apparently some of the by-products of prohibition are going to be as interesting as the main issue. Without intending to cast any slurs on our great and noble sister profession, it is indeed an ill wind that some lawyer cannot manipulate to his advantage. Judging from the letters received, physicians are being circularized by a member of the legal fraternity who has devised a method of helping them to comply with the prohibition law with the greatest amount of ease and convenience to themselves and with profit to him. The circulars have this interesting legend printed in large red type on the face of the envelop: "What the U. S. Government Allows You to Do. I Know the Law. I Will Do Everything but Sign Your Name." The circular offers to assist physicians in securing government permits to purchase or prescribe liquor. While it does not expressly say so, the impression conveyed to the uninformed physician is that every practicing physician must file a bond in order to purchase or prescribe any amount of liquor. This is not the case. As stated in the abstract [1] of Internal Revenue Regulation No. 60, physicians desiring to purchase and prescribe liquors in their practice are required to procure a permit to prescribe. This can be obtained by filling out an application on Form 1404 in triplicate and filing it with the federal prohibition director of the state in which the physician is licensed to practice. This permit, when issued, allows him to prescribe liquor for medicinal purposes only, and when such liquor is necessary to afford relief from some known ailment. It also allows him to purchase not more than six quarts of liquor during any calendar year for professional use only. Bonds need not be filed by physicians, dentists or veterinarians, or by hospitals or sanatoriums unless required by the commissioner. It is not necessary for physicians to pay five dollars or any other amount to any lawyer or bonding company. No fee is required for registering and securing a permit under the prohibition law, and the government officers can and will do all that is necessary to assist a physician to procure a permit without any cost to him. THE JOURNAL has endeavored to keep its readers informed regarding the provisions of the prohibition law. It will continue to do so in the future. The requirements for registration under the law are not difficult; however, if any of our readers are in doubt as to what to do in order to comply with the law, we shall be glad to advise them.

1. The Physician and the Prohibition Law, J. A. M. A. **74**: 342 (Jan. 31) 1920.

## AN ADVANCE IN ROENTGENOGRAPHIC TECHNIC

Even in this day of receptive minds eager for new truths, it may be years before discoveries of great importance to science are brought into general use. In 1912, Lorey [1] happened to roentgenograph the abdomen of a patient who several days before had had air injected into his peritoneal cavity to replace ascitic fluid removed. It was discovered that some of the nitrogen was still present, and this had allowed the intestine to drop out of the way, so that beautiful pictures were secured showing the outlines of the liver, spleen, kidneys and other organs. During the next year, Weber [2] did considerable work to show the possibilities of this method. It was not until 1918, however, that much interest was taken in the subject. Since then a number of papers have appeared in the German, French and Italian journals. Probably the first plates of this type to be shown in America were presented last year at the annual session of the American Medical Association, by Stein and Stewart of New York. Many who saw these roentgenograms felt that they were looking on a great advance in roentgenologic technic, perhaps the most important as regards intra-abdominal diagnosis since Cannon introduced the bismuth meal. It is remarkable that injection of gas into the peritoneal cavity through a needle reveals so clearly the liver, the kidneys, the spleen, the walls of the stomach and intestine, the uterus and its adnexa, the diaphragm and the lower ribs. Undoubtedly the method may be used to show also the point of origin of obscure abdominal tumors. Most of the work has been done with oxygen, but this takes a day or more to be absorbed, during which time the patient is often compelled to remain in bed. It has now been shown that carbon dioxid can be used instead.[3] As this is absorbed in half an hour, the procedure may be carried out in the office, and the patient can return to his home or to his work. So far no accidents have been reported, and there seems to be little reason for fearing any so long as the cases are properly chosen. Naturally, it would be unwise to inject a liter or two of gas into the abdomen of a man with a subphrenic abscess or with adhesions around an area of localized peritonitis. As the distention of the

1. Lorey: Verhandl. d. deutsch. Roentgen Gesellsch. **8**: 52, 1912.
2. Weber: Fortschr. a. d. Geb. d. Röntgenstrahlen **20**: 453, 1913.
3. Alvarez, W. C.: California State J. M. **18**: 42 (Feb.) 1920; abstr. J. A. M. A. **74**: 699 (March 6) 1920.

abdomen always causes considerable discomfort and sometimes acute pain, particularly in the shoulders, the procedure will probably always be limited to the study of special cases. In this issue of THE JOURNAL, Whitman [4] describes from a personal experience the point of view of the patient submitted to this method.

## Association News

### THE NEW ORLEANS SESSION

#### Special Social Events for Women Physicians

A luncheon for visiting women physicians will be tendered by the women physicians of the Southern Medical Association on Tuesday, April 27, at the St. Charles Hotel, and the annual banquet for women physicians will take place at the Louisiana, Wednesday, April 28, at 6 p. m. Reservations should be made through Dr. Margaret Bowden, 1217 Calhoun Street, New Orleans. The cost per cover is $4.

## Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

### CALIFORNIA

**Urologic Section Formed.**—A urologic section of the Los Angeles County Medical Society has recently been organized with sixteen charter members and the following officers: president, Dr. Granville MacGowan; president-elect, Dr. Ralph R. Campbell; vice president, Dr. Robert V. Day, and secretary, Dr. Herbert A. Rosenkranz.

**Personal.**—Dr. Irving R. Bancroft, Los Angeles, has been appointed secretary and executive officer of the state board of health succeeding Dr. Wilfred H. Kellogg, Sacramento. ——Dr. Daniel Crosby has resigned as city health officer of Oakland.——Dr. Walter Lindley, Los Angeles, has been appointed a member of the state board of health succeeding Dr. Lemoyne Mills, term expired.——Dr. William B. Kern, superintendent of the Norwalk State Hospital, has resigned to resume private practice after sixteen years of institutional work.

### COLORADO

**New Officers.**—Lake County Medical Society at Leadville, January 15: president, Dr. Franklin J. McDonald; vice president, Dr. Allan J. McDonald, and secretary-treasurer, Dr. Elwood B. Lynch, all of Leadville.

### CONNECTICUT

**Resigns After Long Service.**—Dr. Max Mailhouse, professor of neurology in Yale University, has resigned after twenty years' service with the institution.

**Health Center Organized in New Haven.**—A health center has been organized in New Haven under the combined leadership and financial support of the municipal department of health, visiting nurse association, the New Haven chapter of the American Red Cross, and the New Haven Medical Society. The health center will aim to build up the health as well as to detect the physical defects of the 20,000 inhabitants in the selected district, which is largely of Italian stock, and it is expected that the center will be in full operation by July 1. Its temporary quarters are 184 York Street.

### ILLINOIS

**Dr. Bartlett Speaks Before County Society.**—Dr. Willard Bartlett, St. Louis, gave an address on "Goiter Surgery," before the Madison County Medical Society at its meeting in Edwardsville, April 2.

**Free Exercise of Healing Art Asked.**—A petition from the "central health committee" asking that the new constitution of the state permit the free exercise of the healing art was presented at the constitutional convention by Delegate Cruden, and referred to the bill of rights committee.

**Personal.**—The offices of Drs. A. B. Scott, Paul B. Kionka and L. A. Lighthart, Melrose Park, were destroyed in the tornado which struck that village, March 28.——Dr. Elmer S. Allen, Arcola, who was operated on several weeks ago at the Union Hospital, Terre Haute, for the removal of gallstones, has recovered and returned home.

**Addition to State Hospital.**—The state of Illinois has begun work on the addition to the Alton State Hospital, to cost $500,000. The plans call for six cottages capable of housing 100 patients, in addition to a dining room and kitchen, and construction of two buildings to house tuberculosis patients, and the erection of a hospital building.

**Plead Guilty to Failure to Report.**—Drs. Henry S. Bennett, Joseph D. McKelvey, Chester C. Sloan and Prudens R. Sterck, Moline, and Arthur E. Williams, Rock Island, are said to have pleaded guilty, March 25, to charges of violating the city health law by failing to report births within the required five day limit, and to have been fined $10 and costs in the Moline police court. The fines were suspended, but the physicians were held for the costs in the case.

#### Chicago

**Institute to Hear Address on the Atom.**—There will be a meeting of the Institute of Medicine of Chicago, April 16, at 8 p. m., in the City Club, at which Prof. R. A. Milliken, University of Chicago, will speak on "The Twentieth Century Contributions to Our Knowledge of the Atom." All interested are invited.

**Karalius Declared Insane.**—Dr. Anthony J. Karalius, who charged that a federal prohibition agent obtained a prescription for liquor by giving a Masonic distress signal and later said he had paid agents $1,000 not to prosecute him, was found of unsound mind, March 31, and will be committed to an institution. Dr. Karalius was released on bond of $2,000, April 2, but has been forbidden to practice medicine or issue prescriptions for narcotics or liquors, pending trial.

### INDIANA

**Tuberculosis Exhibit Tour.**—The state board of health tuberculosis exhibit automobile has started on a tour of the rural districts of the state.

**University Centennial.**—Indiana University will hold its centennial celebration May 5, 6 and 7. May 5 will be given over to the exercises of the medical department at Indianapolis, and all physicians are invited to be present at the meetings on that day.

**University to Operate Dispensary.**—The board of health of Indianapolis, at the meeting, March 15, approved a contract with the Indiana University School of Medicine for the operation of a city dispensary for 1920. The university agreed to operate the dispensary and provide supplies for $825 a month.

**Personal.**—Dr. Frank C. Wade, Howe, sustained a fracture of the arm when his sleigh overturned recently.——Dr. J. C. Fulton, Bluffton, rounded out a half century of practice in Wells County, March 11.——Dr. Frederick J. Schulz, Fort Wayne, for thirteen years physician to the General Electric Company, Fort Wayne, has resigned.——Dr. Harry M. Pell, Brazil, has been appointed local physician for the Pennsylvania system, succeeding Dr. Lewis L. Williams, deceased. ——Dr. Aldine E. Morgan, Lafayette, has returned to the Indiana State Soldiers' Home as chief surgeon.

### IOWA

**Venereal Disease Clinic.**—It is announced that a clinic for the free treatment of venereal diseases will be established in Cedar Rapids, as the result of a survey made by Dr. Oliver C. Wenger, U. S. Public Health Service.

**Personal.**—Dr. Charles Magoun, Sioux City, has been appointed physician of Woodbury County, succeeding Dr. Guy E. Barr, Sioux City.——Dr. M. Charles Mackin, Knoxville, superintendent of the Iowa State Inebriate Hospital, Knoxville, has been appointed assistant alienist to the State Hospital for the Insane, Skillman, N. J.——Dr. Leon C. Havens, acting head of the department of epidemiology in the State University of Iowa, Iowa City, has been called to a chair in Johns Hopkins University, Baltimore.

4. Whitman, Armitage: Oxygen Inflation of the Peritoneal Cavity: A Personal Experience, THE JOURNAL, this issue, p. 1021.

## MARYLAND

**Emerson in Baltimore.**—Dr. Charles P. Emerson, professor of medicine and dean of the University of Indiana School of Medicine, Indianapolis, delivered an address on "Environmental Medicine," at the Johns Hopkins School of Hygiene and Public Health, March 29.

**Workrooms for Wounded.**—Two portable buildings will be erected this week on the grounds of the United States Marine Hospital to give the patients a place in which to do handiwork. Four members of the reconstruction division of the U. S. Public Health Service, under the direction of Miss Elizabeth Winn, chief reconstruction aide, are in charge of the division of occupational therapy, to which one of the buildings will be devoted. The other will be given over to a physiotherapy department.

**Personal.**—Dr. William S. Halsted has received a diploma of honorary foreign membership in the Royal College of Medicine of Belgium. Dr. John M. T. Finney has been awarded honorary fellowship in the Royal College of Surgeons of England.——Dr. Warren H. Lewis of Johns Hopkins Medical School has been elected an honorary member of the Society of Medicine of Ghent, Belgium.——Dr. Ross McC. Chapman, the new superintendent of the Sheppard and Enoch Pratt Hospital, Towson, assumed his duties, April 1.

## MASSACHUSETTS

**Personal.**—Dr. George R. Fessenden, Ashfield, has been appointed associate medical examiner (coroner), for Franklin County.——Dr. Richard J. R. Caines, Boston, has returned after eighteen months overseas.

**Dean Lewis in Boston.**—Dr. Dean D. Lewis, professor of surgery (elect) in Chicago University, has been acting for two weeks as surgeon-in-chief protempore, in charge of Dr. Harvey Cushing's service at the Peter Bent Brigham Hospital, Boston.

**Staff Meeting.**—A clinical meeting of the outpatient department medical staff of the Massachusetts General Hospital was held, April 7. Dr. Lloyd T. Brown, Boston, presented a paper on "Bodily Mechanics in Relation to Medicine," and Francis M. Rackemann, Boston, one on "Bronchial Asthma."

**Resigned, Not Deceased.**—The report that recently appeared in a Boston paper announcing the nomination of Dr. G. Forrest Martin as a trustee of the state infirmary in place of Dr. Leonard Huntress, deceased, should have read "in place of Dr. Leonard Huntress, resigned." Dr. Huntress is alive and well.

**Complimentary Luncheon to General Wood.**—The Class of 1883 of Harvard Medical School, of which Major-General Leonard Wood is a member, will give a complimentary luncheon to him at Symphony Hall, Boston, April 13, from 12 to 2:30. The speakers will be Dr. Henry Jackson, Boston, president of the class, Dr. Alfred Worcester, Waltham, president of the Massachusetts Medical Society, and General Wood.

## MICHIGAN

**Influenza Deaths.**—During the seven weeks of the influenza epidemic in Detroit, during January and February, the mortality rate was 2 per thousand. During a similar period at the beginning of the epidemic in 1918, the mortality was slightly less, but resulted finally in the deaths of 0.28 per cent. of the population.

**Personal.**—Dr. Theodore S. Crosby has been appointed health officer of Wakefield.——Dr. Bruno L. Schuster, Jackson, health officer of Jackson County, has resigned.——Dr. Mabel E. Elliott, Benton Harbor, who was captured with a party of Armenian relief workers during a recent raid of the Turks, is reported to have escaped.

## MISSISSIPPI

**Smallpox.**—Smallpox of virulent type is said to be prevalent in half of the counties of the state. The state sanitary inspector, Dr. Cyrus M. Shipp, Water Valley, announced, March 27, that twenty deaths had occurred from this cause in Jones County. During the last fourteen days of March, 785 cases were reported from forty-one counties.

**Six-County Medical Society Installation.**—At the meeting of the North Mississippi Six-County Medical Society, composed of Tippah, Benton, Union, Marshall, Yalobusha and Lafayette counties, March 17, Dr. Ira B. Seale, Holly Springs, was installed president; Dr. George W. Sisler, Waltervalley, vice president, and Dr. Billy S. Guyton, Oxford, secretary.

**Health Campaign Planned.**—To carry out the cooperative idea between the work of the state board of health and the American Red Cross, plans are being made for the initiation of a health campaign in Lafayette County. The state board of health will appropriate $5,000 toward this cause, and the secretary of the Lafayette County chapter of the American Red Cross $2,500, provided the citizens of the county, through its board of supervisors, will provide the $2,500 needed.——At a meeting held in McComb, March 22, plans for the special health campaign to begin in McComb were outlined. Dr. W. D. Beachman, Summit, health officer of Pike County, has moved his office to McComb and has associated with him in the work Red Cross nurses and assistants. McComb has added $1,000 to the Rockefeller fund in order that special work may be done.

## MISSOURI

**Mayoral Candidates Outline Policies.**—March 20, at Mercy Hospital, Mayor Cowgill and Walter H. Foster, candidates for mayor of Kansas City, outlined their proposed policies with regard to hospital and health boards to the members of Jackson County Medical Society.

**Personal.**—Dr. Robert Vinyard, St. Louis, has been appointed assistant physician to the Frisco Hospital, Springfield.——Dr. George W. Cale, Jr., after twenty-two years' service as chief surgeon of the St. Louis and San Francisco system, announces his retirement, April 1, to resume private practice.——Dr. Wenzel C. Gayler has resigned as second vice president of the St. Louis Medical Society.——Dr. Harold B. Scovern, Carrollton, has been appointed deputy state health commissioner.

## NEBRASKA

**Personal.**—Dr. Hiram W. Orr, Lincoln, has been made editor of the *Journal of Orthopedics*.——Dr. Earl W. Fetter, North Platte, has been made physician of North Platte, succeeding Dr. John S. Simms, North Platte, resigned.——Dr. and Mrs. Charles R. Gannaway, Stuart, have disposed of their hospital to engage in the Near East relief work.

**Hospital Items.**—The campaign put on by the Lincoln Commercial Club, early in March, to secure $100,000, which, added to a similar amount voted by Lincoln last spring for a city hospital, will make up the amount necessary to build a hospital, has been successful and the hospital will be built this summer.——Long Pine Community Hospital was formally opened, February 17, and is in charge of Dr. Albert G. Rasck, Long Pine, formerly of Chicago.——The citizens of Sydney and tributary territory have organized a hospital association which will build a hospital this summer.

## NEW YORK

**Cash Prize Awarded.**— The Merritt H. Cash Prize of the New York State Medical Society has been awarded to Dr. Herman B. Sheffield for his essay on infantile paralysis.

**Society Condemns City Laboratory Plan.**—The Albany County Medical Society, at its meeting, March 10, condemned the plan of expending $20,000 for alterations of the old pumping station on Manning Boulevard for the purpose of establishing a municipal bacteriologic laboratory, and adopted a resolution urging the mayor to register the opposition of the medical fraternity to the scheme.

**New Officers for Women's Society.**—The forty-sixth annual meeting of the Women's Medical Society of New York State was held March 22, in New York City, under the presidency of Dr. Elizabeth B. Thelberg, Poughkeepsie, and the following officers were elected: president, Dr. Lois L. E. Gannett, Adams; vice presidents, Dr. Florence I. Staunton, Utica, Mathilda K. Wallin, New York City, and M. Louis Hurrell, Rochester; secretary, Dr. Harriet M. Doane, Fulton, and treasurer, Dr. Elizabeth L. Shrimpton, Syracuse.

**State Aid in Local Health Work.**—A bill introduced in both houses of the state legislature proposes the establishment of health centers, to be supported by the state funds in addition to local appropriations. Grants are to be made for the construction and operation of hospitals, dispensaries and clinics in rural and urban communities. Facilities for bacteriologic and pathologic diagnosis and for consultation are to be provided. The health centers also will serve as headquarters for the district health service, for public health nursing, medical school inspection and public health education. The board of managers of the state charities aid association has adopted resolutions favoring passage of the measure.

### New York City

**Hospital for Incurables Opened.**—The Beth Abraham Hospital for Incurables, with accommodation for seventy-five patients, was opened March 22. A campaign for $200,000 has been launched for the erection of new buildings.

**Course in Fractures.**—A course in fractures was begun at the Cornell Medical College, April 5, and will continue until April 30, on Mondays, Wednesdays and Fridays. The course consists of two consecutive hours of lectures and demonstrations, beginning at 2 o'clock. Dr. Joseph A. Blake will give seven exercises; Dr. George W. Hawley, six, and Dr. James M. Hitzrot, five. In addition to the first three, Dr. Alexis Carrel will also give one lecture. Other exercises will be held by Dr. Henry H. M. Lyle, Dr. Burton J. Lee and Dr. John C. A. Gerster. The profession is cordially invited.

**Distribution of United Hospital Fund.**—Officials of the United Hospital Fund announced that they have distributed $400,000 among the forty-six member institutions. This represents double the amount each hospital received last year from the organization. Among the larger amounts distributed were: St. Luke's Hospital, $27,850.90; Mount Sinai Hospital, $27,752.32; New York Hospital, $43,118.26; Presbyterian Hospital, $18,472.12; Lincoln Hospital, $16,567.90; Lenox Hill Hospital, $14,409.42; Roosevelt Hospital, $13,318.92; Post-Graduate Hospital, $11,868.72; Orthopedic Hospital, $21,518.42; Hospital for Ruptured and Crippled, $15,307.34, and Montefiore Home, $35,271.28.

### OHIO

**Resignations.**—Dr. William Wylie Scott, city physician of Canton for three years, has resigned.——Dr. Charles G. Augustus, health director of Springfield for three years, has resigned.——Dr. Ernest Zueblin has resigned from the staff of the Cincinnati Tuberculosis Sanatorium and has been succeeded by Dr. Reuben Erickson.

**Illegal Practitioners Prosecuted.**—A report states that Dr. E. C. Branch was fined $50 and costs, March 24, for advertising himself in Ohio as a practitioner of medicine without having first obtained a license. Charges also were filed against D. A. Donovan, an optometrist, for advertising himself as a practitioner of medicine and surgery in Wooster, without having first secured a license. Although an optometrist, Donovan is said to have used the unqualified title of "Dr." in his advertisements. Charges have been filed, also, against a woman named Mary Lottig in Cleveland for illegal practice of medicine.

### PENNSYLVANIA

**Weir Mitchell Entertainment Fund.**—The Weir Mitchell Entertainment Fund will give a dinner to the Fellows of the College of Physicians of Philadelphia, at the College, April 15, at 7 o'clock.

**Personal.**—Dr. Patrick H. Weeks, Warren, has been appointed physician to the Northern Indiana Penitentiary, Michigan City.——Dr. Karl Schaffle, Philadelphia, for eight years head of the tuberculosis dispensary work in the state department of health, and Dr. Dorothy Child, Philadelphia, director of the child health bureau of the department, have resigned.

**Health Insurance Commission.**—The governor has appointed a commission to investigate accidents and sickness not compensated under the workmen's compensation act of Pennsylvania. The members named by the governor are: William Flinn, Pittsburgh; William Draper Lewis, Dr. Francis D. Patterson, secretary, Dr. Gassaway Oram Ring and William H. Kingsley, Philadelphia; members named by the president pro tem of the senate: Senators S. J. Miller, Clearfield County; Morris Einstein, Allegheny County, and Charles W. Sones, Lycoming County, and members named by the speaker of the house, William T. Ramsey, Delaware County, chairman; John M. Flynn, Elk County, and Theodore Campbell, Philadelphia.

### RHODE ISLAND

**Associate Editors Appointed.**—Drs. William F. Barry, Woonsocket; Charles S. Christie, River Point; Asa S. Briggs, Ashaway, and Norman M. Macleod, Newport, have been appointed associate editors of the *Rhode Island Medical Journal.*

**Passes Ninetieth Birthday.**—Dr. Horatio R. Storer, Newport, celebrated his ninetieth birthday anniversary, February 27. Dr. Storer was recently given the degree of LL.D. by Fordham University, New York City, in recognition of his activities in matters of disease prevention.

**Tuberculosis Survey.**—The state association for the prevention of tuberculosis has engaged Prof. C.-E. A. Winslow of the Yale School of Medicine to make a survey of tuberculosis conditions in the state and of the work which is being done by different organizations for its control.

**Fight Against Mosquitoes.**—The bill appropriating $20,000 to assist cities and towns in the extermination of mosquitoes has been passed. Under the provisions of this act, communities making appropriation for the mosquito extermination will receive from the state an amount equal to the sum, which they may expend in actual work, not to exceed $3,000.

**League for the Suppression of Tuberculosis.**—The Providence League for the Suppression of Tuberculosis was organized in 1906 as a committee of the society for organizing charities. A charter has recently been obtained and the league has been formed into an entirely new and separate organization with the above name. Dr. Jay Perkins is president and Dr. Jeannie O. Arnold, secretary. The league has been chiefly occupied with relief and educational work, and with maintaining a preventorium. It hopes to expand greatly its field of operation, and Dr. Elliott Washburn, Providence, has been selected as its general agent.

**New Officers.**—Newport County Medical Society at Newport, January 22, elected these officers: president, Dr. Abiram F. Squire; vice presidents, Drs. Charles W. Stewart and Norman M. Macleod; secretary, Dr. Alexander C. Sanford, and treasurer, Dr. Douglas Jacoby, all of Newport.——Providence Medical Association, January 5, elected: president, Dr. Dennett L. Richardson; vice president, Dr. Frank T. Fulton; secretary, Dr. Raymond G. Bugbee, and treasurer, Dr. Charles F. Deacon.——Washington County Medical Society at Westerly, January 8, elected: president, Dr. Patrick J. Manning, Wickford; vice presidents, Drs. Henry L. Johnson, Westerly, and William T. Veal, Stonington, and secretary-treasurer, Dr. William A. Hillard, Westerly.

### TENNESSEE

**Personal.**—Dr. Sydney Thompson, Nashville, has so far recovered in health that he has returned to his work as assistant superintendent at the Central Hospital.

**New Officers.**—Jackson County Medical Society, at Kingsboro, March 1: president, Dr. John D. Quarles, Whitlyville, and secretary, Dr. Roscoe C. Gaw, Gainesboro.——Giles County Medical Society: president, Dr. George D. Butler, Pulaski; vice president, Dr. William H. Cole, Minor Hill; secretary, Dr. Charles A. Abernathy, Pulaski, and treasurer, Dr. George C. Grimes, Pulaski.——Lincoln County Medical Society: president, Dr. James M. Shelton, Kelso, and secretary, Dr. Jacob M. McWilliams, Fayetteville.——Washington County Medical Society: president, Dr. James G. Moss, and vice president, Dr. Lee K. Gibson, both of Johnson City.——Rutherford County Medical Society: president, Dr. Matthias B. Murfree, Murfreesboro; vice president, Dr. John M. Shipp, Readyville, and secretary-treasurer, Dr. James A. Scott, Murfreesboro.

### TEXAS

**Personal.**—Dr. W. H. Minton, Houston, has been appointed assistant state health officer, succeeding Dr. Douglas Largen, resigned.

**Physicians Want Quiet Zones.**—The physicians of San Antonio have requested the city council to establish zones of quiet around the hospitals in that city.

**Malaria Fight.**—The department of public health of Dallas has spent about $6,000 in malarial control work, including cleansing of streams, confining them to narrow channels, and the stocking of streams with minnows to feed on the malaria-bearing larvae.

### WEST VIRGINIA

**New Officers.**—Mercer County Medical Society at Bluefield, January 22: president, Dr. Charles T. St. Clair, Bluefield; vice presidents, Drs. Bernard S. Clements, Matoaka, Francis T. Ridley, Bluefield, and Walter W. Harloe, Matoaka; secretary, Dr. Edward H. Thompson, Bluefield, and treasurer, Dr. Thomas E. Peery, Bluefield.——Raleigh County Medical Society at Beckley, January 9: president, Dr. Kyle M. Jarrell, Beckley; vice presidents, Drs. Ira M. Fisher, Stotesbury, McRae C. Banks, Raleigh, and William C. Mays, Beckley; secretary-treasurer, Dr. Fred Stansbury, Beckley.

## CANADA

**Personal.**—Dr. Frederick Montizambert, Ottawa, director-general of public health for Canada, was knocked down by a street car in Ottawa, January 19, and his clavicle was fractured.

**Dental Faculty Created.**—The faculty of dentistry has been created in McGill University, Montreal. Heretofore dentistry was administered under the medical faculty. There are 400 students in attendance in this department.

**Licensure in Charge of University.**—A bill has been introduced into the parliament of Alberta placing under control of the University of Alberta the examination and registration of applicants who desire to practice the various branches of medicine in that province. The university already has in charge the registration and examination of nurses and it is expected that registration of those practicing law, pharmacy and dentistry will be similarly provided for. This appears to be a move in the right direction. If the university is given a free hand in the educational qualifications necessary, it will be the safest body to have these matters in charge. The entire problem of medical cults rests on educational qualifications. It is hardly probable that the university will establish more than one standard of qualifications for those who are to treat the sick.

**Hospital News.**—Dr. Clarence M. Hincks, Toronto, secretary of the Canadian Mental Hygiene Commission, was recently in Halifax, N. S., in connection with the establishment of a psychiatric clinic in that city. It is probable that the commission will shortly take a survey of the mentally afflicted in Nova Scotia.——Brandon, Man., is to have a new hospital at a cost of $300,000.——The hospitals now receiving governmental aid in Alberta number forty-nine. It is expected that during the present year municipal hospitals will be established in ten new localities in Alberta.——At Keith, Alberta, a sanitarium is to be established for cases of tuberculosis. At first there will be 150 beds, but when the institution is finally completed its capacity will be for 300.——In Saskatchewan four union hospital districts have been established under the union hospital act. The areas selected are Battleford, Unity, Strasbourg, and Wynyard. Voting takes place on the scheme in March or April.——British Columbia will spend $150,000 on hospitals and public institutions. Of this amount, $85,000 will be for the feebleminded, for whom a farm of 300 acres has been purchased on which cottages are being erected.——A new annex is to be added to the Provincial Royal Jubilee Hospital at Victoria, B. C. It is for the accommodation of venereal disease cases.

## GENERAL

**Conference of Social Work.**—The National Conference of Social Work will open its forty-seventh annual session by a joint meeting with the National Child Labor Committee at New Orleans, April 14.

**New Officers for Posture League.**—At the annual business meeting of the American Posture League, March 13, the following officers were elected: president, Jessie H. Bancroft; vice president, Dr. Frederick R. Green, Chicago; secretary, Dr. Henry Ling Taylor, New York City, and treasurer, Dr. George J. Fisher, New York City. The annual public meeting of the league was held this week concurrently with that of the American Physical Education Association in New York City.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

St. Peter's Hospital, Charlotte, N. C., a donation of $20,000 from Mr. and Mrs. W. A. Irwine, Durham, N. C., as a memorial to their grandson, Hamilton C. Jones.

Polyclinic Hospital, Harrisburg, $150,000, the result of a drive which closed, January 27.

Lewistown, Pa., Hospital, $1,500 by the will of Harriet Thomas Kurtz.

Blackford County, Ind., Hospital, a donation of three city blocks of land and $5,000 for improvements, by Mrs. H. B. Smith, Hartford City.

**Meeting of Industrial Physicians.**—The American Association of Industrial Physicians and Surgeons will hold its fifth annual meeting at the Hotel Grunewald, New Orleans, April 26 and 27. Sessions will be held at 9 a. m. and 2 p. m. on each day, at which will be discussed the problem of the mentally and physically subnormal wage earner, the training of industrial physicians, the relationship of the industrial physician to the venereal disease problem, first aid and standardized surgical methods in industry, and the problem of compensation for sickness.

**Carbon Monoxid in Vehicular Tunnels.**—At its Pittsburgh station, the United States Bureau of Mines is making tests to determine the amount and percentage of carbon monoxid in the exhaust gases of automobiles. The problem is assuming increasing importance in connection with plans for ventilating the long tunnels designed for vehicular traffic—a tunnel 5,700 feet long is under construction through the South Hills at Pittsburgh, one of 6,000 feet is proposed for Boston, and designs are being prepared for a tunnel 8,000 feet long to pass under the Hudson River between New York City and New Jersey. Coincidentally, experiments are being carried on by Dr. Yandell Henderson at the physiologic laboratory of Yale Medical School, to determine what percentage of carbon monoxid in the air may be safely tolerated for several hours.

## FOREIGN

**Oliver-Sharpey Prize.**—Dr. Emile Roux of the Pasteur Institute, Paris, has been awarded the Oliver-Sharpey Prize for 1920 by the Royal College of Physicians of London.

**Surgeon in Danish Cabinet.**—Prof. Thorkild Rovsing, prominent Danish surgeon, chief of the surgical section of the Rigshospital, Copenhagen, and editor of *Hospitalstidende*, was minister of education in the cabinet of Denmark, formed March 30, and since reported dissolved.

**Australian Commonwealth Public Health Service.**—The government intends to proceed with the establishment of a federal health department. It is not likely that more will be attempted than the encouragement of research and the perfecting of statistical and other information between the existing state departments.

**Scarcity of Ergot and Santonin in the Netherlands.**—The *Nederlandsch Tijdschrift voor Geneeskunde* publishes a communication from two experts consulted dealing with the conditions in which ergot and santonin are indispensable and those in which they can be substituted by other drugs. The scarcity of these two drugs has impelled the authorities to urge physicians to be as saving in their use as possible.

**King Umberto Prize.**—The Rizzoli Orthopedic Institute, Bologna, Italy, announces that competition for the prize Umberto I has been opened. The prize of 3,500 lire (normally $700) will be assigned by the provincial council of Bologna for "the best orthopedic work or invention." Both Italian and foreign physicians may take part in this competition. The regulations of the competition will be sent to any one who applies to Dr. G. Zanardi, president of the Rizzoli Institute, Bologna. The competition will close December 31.

**The Boas Prize.**—The second conference on diseases of the digestive glands and deranged metabolism is to be held at Hamburg in May with Prof. I. Boas presiding. The subjects appointed for discussion are duodenal ulcer; the consequences of dysentery from the standpoint of diagnosis and treatment; war experiences with diabetes; and the diagnostic importance of what we know in regard to the internal secretions as applied to diseases of digestive organs and metabolism. The Boas prize of 1,000 marks is to be awarded this year for the best article received in competition dealing with the influence of mastication on the secretion of gastric juice in health and in disease.

**Red Cross League Items.**—Senator Curaolo, president of the Italian Red Cross, has replaced Senator Frascara as a member of the board of governors of the league.——George C. Whipple, professor of sanitary engineering in the Medical School of Harvard University, has arrived in Geneva and taken up his duties as chief of the department of sanitation.——Dr. Octave Monod has entered on his duties as assistant chief of the department of tuberculosis.——The league has undertaken, on behalf of the British Red Cross, to care for certain British patients in tuberculosis sanatoriums in Switzerland.——The League of Red Cross Societies has been elected an honorary member of the Statistical Society of Paris, and Mr. Knud Stouman, chief of the department of vital statistics, has been chosen representative of the general medical department of the league.——Dr. S. Burt Wolbach, Boston, of Harvard University Medical School and Dr. John L. Todd of McGill University visited Geneva on their way to Poland to discuss with Dr. Richard P. Strong, the chief medical director, the program which the league is to carry out in Poland in connection with the study of the etiology of typhus fever. Dr. Wolbach is chairman of the commission of the league; Dr. Todd, assistant chief, and other members of the commission are Drs. A. Bacot of the Lister Institute, London; Francis W. Palfrey, Boston; Monroe A. McIver, New York City; James W. Denton, Rhode Island, pathologist; Mr. Henry Pinkerton of the Massachusetts Institute of Technology, and Mr. Forrest A. Hardy, medical secretary.

# Government Services

### Health Conditions of the Army

For the week ending March 26 there is reported a slight increase in the number of new cases of measles, but the disease is not epidemic at any station. The increase was expected in connection with the arrival of new recruits as a result of a recruit drive, now nearing completion. The admission and noneffective rates are considerably lower than for the previous week, and are believed to be as low as can reasonably be expected for this season of the year. There were twenty-one deaths from disease reported during the week: eight were caused by tuberculosis and seven by pneumonia.

### Public Health Service Acquires New Hospital

The House Committee on Public Buildings and Grounds has approved the purchase by the Public Health Service of the Mount Alto property situated in the suburbs of Washington, D. C. This property will be used for the care and treatment of tuberculous patients. It now has a capacity for 125 beds but it is planned to increase its facilities immediately to 300 beds and later it can be expanded to 2,000 beds. The price fixed by the committee is $460,000. The property covers 11½ acres and includes nine modern stone buildings. It is considered an excellent unit for hospital purposes. Congressman Tague urged that provision should be made for ample expansion of this property. He said there are 50,000 service men, sufferers from tuberculosis who need immediate attention and that the Public Health Service does not have facilities at the present time to meet the situation. The committee at its next meeting expects to receive a complete summary of the prospective needs for hospital enlargement throughout the country from the Public Health Service.

### Public Health Service Requests Additional Funds

Surgeon-General Cumming of the Public Health Service estimates that it will cost the government $18,316,000 to take care of sick and disabled soldiers and sailors for the fiscal year ending June 30, 1920. In a statement to the Secretary of the Treasury, Dr. Cumming says that the Public Health Service is now caring for 12,000 patients in hospitals and is examining over 3,500 new patients each week. The medical, surgical and hospital requirements of the Public Health Service are such that Congress has been requested to appropriate an additional $8,816,000 to meet the needs of the service to June 30, 1920.

### Bill to Transfer Medical Care of Disabled Veterans to War Risk Insurance Bureau

A bill has been introduced by Congressman Rogers of Massachussetts to transfer to the Bureau of War Risk Insurance the care of discharged sick and disabled soldiers and sailors. This work is now being performed by the United States Public Health Service and is of course only a part of the functions of the latter organization. The care of sick and disabled service men has been an enormous task for the Public Health Service and has reached proportions far beyond all expectations. It is the belief of Congressman Rogers that this work can be more efficiently performed by the Bureau of War Risk Insurance because the duties of this bureau are directed exclusively to ex-service men.

### MEDICAL OFFICERS, UNITED STATES NAVY, RELIEVED FROM ACTIVE DUTY

*INDIANA*
Indianapolis—Sutherlin, C. G.

*MICHIGAN*
Manton—Bloxsom, P. W.

*NEW MEXICO*
Hagerman—Losey, R. R.

*NEW YORK*
Syracuse—Weinheimer, L. H.

*OHIO*
Ralston—Spaulding, H. B.

*PENNSYLVANIA*
Philadelphia—Smith, C. D.

*SOUTH CAROLINA*
Health Springs—Stover, M. S.

*TEXAS*
San Juan—Fleck, W. L.

*VIRGINIA*
Richmond—Hatcher, M. A.

# Foreign Letters

## MADRID

Feb. 10, 1920.

### The Increase of Mortality in Madrid in December and January

Dr. Lasbesnes, director of the bureau of statistics of Madrid, has furnished some interesting data for The Journal on sanitary conditions at Madrid during the months of December, 1919, and January, 1920. The highest mortality ever reached at Madrid during the present century is shown. The number of deaths at Madrid is always smallest during the month of September, after which it increases gradually, reaching the highest point in January. This happened last fall and winter; but this time the increase in mortality was so great that it caused much anxiety. In the middle of December, 1919, the number of deaths was very high, exceeding greatly the average for this part of the year. The total number of deaths during this month was 2,803. In the last nineteen years there have only been two months with over 2,000 deaths, namely, January, 1914, 2,074, and January, 1919, 2,124. The average for December had been 1,582, compared with 2,803 of last December and 3,059 last January. The most prevailing diseases were bronchopneumonia, bronchitis, pulmonary tuberculosis, influenza, heart diseases, meningitis and cerebral congestions. This is the third wave of influenza, the first having occurred at the beginning of June, 1918, and the second in January, 1919. In the first two, the child mortality was very low, but not so in the present wave, as one disease alone, acute bronchitis, has trebled the deaths among children. Of 345 deaths from acute bronchitis, 310 were in children less than 5 years old. Typhoid fever also has increased, fifty-eight having died in December, and sixty-two in January. The deaths from colibacillosis, not included in the typhoid reports, were five in December. Typhoid fever came on so suddenly, and became so prevalent, that the physicians felt compelled to call attention to the fact, since the sanitary authorities were silent about the matter. Smallpox, on the contrary, caused only two deaths in the last seven months of 1919. The suppression of this disease is due, as I stated in a previous letter, to the enforcement of compulsory vaccination by the governor of Madrid. Influenza caused 207 deaths in December and 311 in January, and bronchopneumonia, 385 in December and 446 in January. There have also been a few cases of encephalitis lethargica. An important fact, to which Lasbesnes invites attention, is the decrease in the number of births, which have been decreasing slowly but constantly, after reaching in 1917 the highest figure of 17,178 live births; in the last two years, in spite of the increase in population, the births have decreased to 16,958 in 1918 and 16,309 in 1919.

### The Physicians of the Franciscan Order

The Third Order of St. Francis has had in Madrid for a long time a hospital, very popular among the thousands of people who belong to that order. In order to become a physician of that hospital it was necessary to take an examination, and the physicians chosen had occupied these places for many years with general approval. The election of a new board of directors caused difficulties among those participating in the work of the hospital. There was an open break, and the physicians, pharmacists and chaplains were expelled without any explanation. The board of directors then appointed two physicians to replace those thrown out so informally. These physicians, however, appealed to the Association of Physicians of Madrid. After many discussions and controversies, a meeting was held, February 6, at which

the evidence presented by Dr. Garciá de la Sarrana, one of the expelled physicians, convinced every one of the injustice committed in their case. Those who had replaced them hastened to place their resignations in the hands of the board of directors of the Association of Physicians. Pending the final decision by the department of the interior, which is now considering the matter, the board asked the new physicians to continue in their places. All considered, this is a new victory for the medical profession, which has shown its solidarity.

### Conclusions Based on More than Two Thousand Laparotomies

Dr. Cospedal Tomé, the gynecologist, dean of the Hospital de la Princesa, delivered the inaugural address of the medical course before the Royal Academy of Medicine. His address was a simple presentation of his surgical experiences and technic obtained in many years of constant practice. He favors chloroform anesthesia and the figure of eight suture to close the abdominal cavity, which prevents the entrance of foreign material, and expresses surprise that this kind of suture has not become more popular.

## LONDON

March 20, 1920.

### Memorial to Osler

A meeting has been held at Oxford to consider what steps should be taken to perpetuate the memory of Sir William Osler. It was attended by many leading members of the university and of the medical profession. The vice chancellor, who presided, said that the meeting was held to show the respect and affection felt for the late regius professor of medicine not only by the University of Oxford but also by other universities on more than one continent and by the London hospitals. Osler's name would always be associated not merely with the history of the chair of medicine at Oxford but with its actual existence as well by reason of the generous benefaction, of which he was the first to hear from Osler's lips. Sir Clifford Allbutt, regius professor of physic in the University of Cambridge and president of the British Medical Association, in proposing a resolution that Osler's distinguished services were worthy of a permanent memorial in Oxford, said that it would be impossible to sum up what made the real charm of Osler's character. He would present only one point of view: the universality of his experience and his sympathies. A resolution was then proposed by Sir William Church, formerly president of the Royal College of Physicians: "That in view of the intimate association of Sir William Osler's life work with Oxford and the study of the origin and prevention of disease, the most appropriate form of memorial would be an Osler Institute of General Pathology and Preventive Medicine." The resolution was adopted. On the motion of the dean of Christ Church, seconded by Sir A. E. Garrod, Osler's successor in the chair of medicine, committees were appointed to issue an appeal. It was announced that a provisional committee of Osler's friends in America, consisting of Professors Welch, Harvey Cushing, Billings, President Butler and Dr. Walter James, had been appointed. Among those who have expressed sympathy with the proposal are the United States ambassador, the British ambassador to the United States, the high commissioner for Canada, and the president of the Royal College of Physicians.

### Clean Milk

The supply of clean milk still remains an unsolved problem. Under ordinary farm conditions, fecal and other forms of contamination are rife and in general cannot be prevented. However, the food controller has instituted a system of licenses by which clean milk can be sold under a guarantee. There are two licenses: "Grade A milk" and "Grade A certified milk." These designations can be used only under the license. Grade A milk is produced under specially clean and hygienic conditions from a herd which contains no cow that has not passed the specified tuberculin test and certain other requirements. While the license is held, every facility must be afforded for taking samples of milk from any cow in the herd or from the mixed milk. The farm must be open to government inspection and must attain a certain standard in equipment and methods. The license is granted only after such inspection, and if later the standard is found to have deteriorated, the license may be withdrawn. The milk must be cooled on the farm and consigned in a sealed container having a label giving the address of the farm, and stating whether from morning or evening milking. Dealers who desire to sell the milk must show that their equipment and methods are satisfactory and that the milk is delivered to the consumer in the vessel in which it is received, or in bottles sterilized by steam, filled on the premises of the retailer and closed by disks or caps showing the day of production. For Grade A certified milk there are additional requirements. The milk after cooling must be bottled on the producer's premises in sterilized bottles and labeled to show the day of production and the time of the day. On examination at any time before delivery to the consumer, it must not contain in 0.1 c.c. (in each of two tubes) *B. coli* or more than 30,000 bacteria per cubic centimeter. Further, the milk must not be delivered to the customer more than two days after production.

### The Range of Services of the Panel Physician

The panel physician contracts to render such services as can be "properly undertaken by a general practitioner of ordinary professional knowledge and skill." What exactly this includes would in some cases be a question. A dispute arose between the Glasgow insurance committee and the local medical committee whether the operation of suturing tendons of fingers is a service of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary skill. The insurance committee contended that the operation did not require special skill. The question was referred to referees, who included Mr. F. K. Smith, surgeon to the Royal Infirmary, Aberdeen. The referees held that a distinction must be made between the operations on the tendons at the back of and on the front of the hand. They pointed out that there were special risks and difficulties in suturing the tendons of the palm. The sheath which encloses the palmar tendons may be the means of carrying septic material into the palm or forearm, and, moreover, the proximal end of the severed tendon, being subject to retraction into the sheath, may involve operative enlargement of the original wound. The conditions existing in the patient's dwelling, under which the general practitioner would generally have to operate, would increase the risk of sepsis, especially when the fingers have been crushed. The referees therefore decided that no general rule could be laid down that suturing tendons of a finger was a service which could properly be undertaken by the general practitioner.

### The British Journal of Experimental Pathology

A new journal, for which the annual subscription is $10, has appeared under the editorship of leading pathologists: C. H. Browning, P. Fildes, W. E. Gye, E. L. Kennaway, E. H. Kettle, J. McIntosh, J. A. Murray, W. J. Tulloch and C. M. Wilson. Among the articles in the first number are: "Is Haemolysed Blood Toxic?" by Professor Bayliss. The author brings forward evidence to show that hemolysis in itself is

harmless. The matter is of great practical importance because of the view that serious results may be due to the hemolysis of corpuscles introduced in transfusion. The experiments on which this view is based have been performed on rabbits. Bayliss points out that rabbits are not suitable animals, owing to their aptitude for intravascular clotting. In the cat and dog, homologous hemolyzed blood is usually innocuous. He regards the occasional ill effects of transfusion as due to anaphylactic shock from foreign serum protein. J. McIntosh and W. A. M. Smart contribute a paper on "The Reaction of Bacteriological Culture Media"; W. Cramer, on "Sympathetic Fever and Hyperpyrexial Heat Stroke"; P. M. Fildes, on "The Serological Classification of Meningococci," and H. Maclean and O. L. V. de Wesselow on "The Testing of Renal Efficiency." It will be seen that a high standard and one representative of the British school of pathology is maintained.

### Influenza

Influenza is again prevalent, but so far the cases are neither numerous nor of severe form. The number of deaths registered from the disease in the ninety-six principal towns during a week has risen from forty-three, the lowest in the last thirteen weeks, to 196. The army authorities are investigating the bacteria of all kinds present in the throats of soldiers, so that if an epidemic becomes general it will be possible to determine whether any new microbe appears among the ordinary organisms of the throat.

### The Fellowship of Medicine: Osler's Successor

Sir George Makins, president of the Royal College of Surgeons, has become president of the Fellowship of Medicine and Post-Graduate Medical Association, in succession to Sir William Osler.

## PARIS

Feb. 26, 1920.

### Eight-Hour Day in Paris Hospitals

The eight-hour day, which has been in force in Paris hospitals since the beginning of the year, is giving deplorable results, and the *Journal des Praticiens* contains a bitter arraignment of the system. Among the inconveniences arising out of the new system the most important are: the reduction of the hospital personnel at 4:30 p. m. to one supervisor for four wards and to one nurse for each ward; the disorganized condition of the hospital service between 11 a. m. and 2 p. m. during the time a large part of the personnel are taking their meals outside of the hospital, and the necessity of enlisting the services of a new personnel that is far from satisfactory. The present system interferes especially with the intern on his second round. In order to have an opportunity to do any useful work, the intern should, under the new system, make his second round between 3 and 4 o'clock, which is much too early for him, as he does not leave the hospital after his first round until 12 or even later. Then, again, if he does come at 3 p. m. he breaks in on the taking of temperature, the bathing of patients, etc. On the other hand, after 4:30 p. m. the intern might as well give up making a second round, for the sole nurse in charge of the ward has just come on duty and is not in touch with things as yet; nor is she in a position to accompany him on his round, as she is being summoned every few minutes by this or that patient.

Aside from the disorganization referred to, the eight-hour day has had a bad moral effect on the hospital personnel. Nurses who under the old system did not hesitate to put in a half hour overtime, if it seemed necessary, now make it a point to leave on the stroke of the clock, which works hardship on the poor fellow who is so inconsiderate as to be in urgent need of assistance just at that moment.

### The Needs of Paris Hospitals

In his recent report, M. Mesureur brings the needs of Paris hospitals forcibly to the attention of the Conseil de surveillance de l'assistance publique. He states that the small service of radiotherapy as organized in the Hôpital Pasteur contrasts unfavorably with the progress that has been realized in radiotherapy in foreign countries, and is inadequate to supply the needs of poor cancerous patients, who are becoming more and more numerous. M. Mesureur suggests, therefore, that an up-to-date radiotherapeutic service be organized. He also calls attention to the fact that Paris lacks a thoroughly organized service of physiotherapy, and recommends that the need be supplied. Furthermore, he requests that also services in which special attention is given to conservation work and plastic surgery be established in various Paris hospitals; for example, Charité, Salpêtrière, Bicêtre, Saint-Louis, Saint-Antoine, Laënnec, etc. M. Mesureur estimates that the total cost of the proposed improvements will amount to 150,000,000 francs, and suggests that the city of Paris place at the disposal of the Assistance publique the sum of 15,000,000 francs annually for the ten-year period 1922-1931.

### Violation of the Right of Privileged Communication

The question of the right of privileged communication came up recently in a French court (Cour de Paris), and the circumstances were these: In support of his demand for a divorce, a husband produced a medical certificate setting forth the pathologic condition of his wife. The court, calling attention to the fact that the right of privileged communication is a matter of public policy, ruled that a physician has not the right, without the knowledge of his patient, to deliver a medical certificate to a third party, even though the third party should be the husband. The judges, therefore, insisted on excluding from the case the medical certificate that had been delivered in violation of the right of privileged communication. The court went still further and gave a decree in favor of the wife, by reason of the grave injury she had suffered owing to the production in court of the medical certificate in question.

### International Scientific Relations

The *Presse médicale* recently published a review of a German treatise on experimental bacteriology, over which fact certain medical journals became very much aroused, especially since the work in question took no account of researches and discoveries in the bacteriology of infectious diseases made outside of Germany since 1914. For example, the book is silent on the interesting American researches relative to the classification of pneumococci, and the important French investigations concerning the varieties of meningococci and the causative agents in gas gangrene. The questions may well be asked: Was this really a systematic boycotting of French and American science, as the *Journal de médecine de Bordeaux* asserts? Can the matter not be explained simply by the fact that, during the war, it was difficult for a German bacteriologist to keep abreast of the times and be familiar with French and American researches, just as French and American bacteriologists must have found it difficult to keep up with German publications on the subject of bacteriology?

At the annual meeting of the Académie des sciences, Prof. Léon Guignard referred in his presidential address to the international scientific relations of the future. He set forth somewhat in detail the work of the Conférence académique interalliée which was held in Brussels and which resulted in the definite founding of the Conseil international des recherches scientifiques. The by-laws of the society were drawn up and neutral nations were invited to collaborate if

such was their desire. The Germans and their allies were excluded until such time as they should have furnished their conquerors rightful reparation and the necessary guarantees. The results of the meeting at Brussels had scarcely become known when a group of members of certain academies in neutral countries filed a petition with the learned societies of the allied nations asking them to resume prewar relations with German scholars and scientists. Professor Guignard holds the view that until the German mentality shall have changed "we shall say: we don't know these men; we don't want to know them." But like a true man of science he recognizes the fact that no scholar worthy of the name "should refuse to take an interest in any idea that may be promulgated throughout the world no matter who the author may be, even though it should be his bitterest enemy; but he can take interest in it without coming into personal contact with the author."

### An American Library in Paris

The American nation has presented to France the library of English books that was collected in Paris by private gifts during the war. It will constitute a souvenir of the sojourn of the American soldiers in France. At the present time this library, which numbers 25,000 volumes and has a reading room in connection containing journals and periodicals, is located at rue de l'Elysée, 10, and is open daily from 10 a. m. to 10 p. m. (Sundays, from 2 to 10 p. m.). The American and English colonies in Paris have donated considerable sums in order to assure the library's continued existence. The French committee in charge of the library has issued an appeal to all persons interested and has asked for contributions for the upkeep of the library, introducing for this purpose a sliding scale in order to fit the needs and the varying financial conditions of those interested. Participating members may draw one book at a time, annual fee, 10 francs; subscribing members may draw two books at a time, annual fee, 20 francs; contributing members pay an initial sum of 100 francs and make an annual contribution of 100 francs; supporting members contribute 2,000 francs, and patrons, 5,000 francs. Contributions and subscriptions may be sent to American Library Fund, rue de l'Elysée, 10, Paris.

### Death of Dr. Henri Triboulet

Dr. Henri Triboulet, physician to the hospitals of Paris, died recently at the age of 56. He was born in 1864; became hospital intern in Paris, and was appointed physician to the hospitals in 1898. His name is closely associated with the prohibition movement. In 1895 he became one of the founders of the Union française antialcoolique, in the interests of which he has delivered numerous lectures every year in Paris and throughout the provinces. From 1903 to 1905 he held the office of vice president of this society, and in this capacity he became especially interested in the establishment of temperance restaurants where no alcoholic beverages whatsoever are sold. In 1905 he published, in collaboration with Drs. F. Mathieu and R. Mignot, a treatise on alcoholism, "Traité de l'Alcoolisme."

## Marriages

DANIEL EDGAR ROBERTS, Keyport, N. J., to Miss Julie Hildeborg Bisgaard, at Holmdel, N. J., March 21.

DANIEL GLEN SMITH, Schenectady, N. Y., to Miss Esther Louis Denny of New York City, April 5.

GLADYS EMELIA PATRIC, Los Angeles, to Milan Chabowitch of Ochrid, Serbia, Nov. 13, 1919.

ALVIN POWELL, Oakland, Calif., to Miss Josephine Miller, January 6.

HEDWIG STIEGLITZ to Mr. Hugo Kuhn, both of Cincinnati, March 29.

## Deaths

**William Martin,** Medical Inspector, Commander, M. C., U. S. Navy, retired, San Francisco; Tulane University, New Orleans, 1874; aged 73; who entered the Navy as acting assistant surgeon in 1874, and was discharged, June 30, 1879; was appointed to the Medical Corps, April 14, 1882, not in line of promotion, by special act of Congress, honorable and meritorious service in yellow fever epidemic, Pensacola, Fla., 1874, and New Orleans, 1878, promoted to surgeon, not in line of promotion, Oct. 1, 1890, by special act of Congress, for extraordinary and meritorious service in yellow fever epidemic, Pensacola, 1888, and was retired, Dec. 25, 1893, with rank of next higher grade to that held on active list, after six years and two months of sea service, including service in the Volunteer Navy during the Civil War; on account of incapacity the result of an incident of service; died, April 1.

**Francis A. Seymour,** Los Angeles; Kentucky School of Medicine, Louisville, 1864; University of Louisville, Ky., 1867; aged 76; acting assistant surgeon, U. S. Army, during the Civil War; formerly associate professor of physiology and later lecturer on general pathology in the Kentucky School of Medicine; for forty years a practitioner of California; once president of the Los Angeles County Medical Association; associate editor of the *Southern California Practitioner;* for five years president of the Humane Society and the Society for the Protection of Children; died, March 20.

**John A. Lee** ✠ Brooklyn; Yale University, New Haven, Conn., 1897; aged 47; surgeon, lieutenant-commander, U. S. Navy, and relieved from active duty, Feb. 12, 1919; president of the Kings County Medical Society; surgeon to St. Mary's Hospital, and attending surgeon to the Kingston Avenue Hospital, Brooklyn; one of the early experimenters with the roentgen ray; died, April 5, his death being reported to be due to the result of burns suffered while the effects of the roentgen ray were little understood.

**Harry Waldo Kimball,** Providence, R. I.; Medical School of Maine, Brunswick and Portland, 1891; aged 52; a specialist in dermatology; dermatologist to the Rhode Island Hospital, consulting dermatologist to the Sophia Little City Hospital, and State Sanatorium for Consumptives; dermatologist to the Sophia Little Home; for the last two years surgeon, U. S. P. H. S., Reserve; died, March 27, from erysipelas.

**Thomas A. Harris,** Parkersburg, W. Va.; University of Virginia, Charlottesville, 1854; aged 89; a member and once president of the West Virginia State Medical Association; surgeon of the Twenty-Third Georgia Infantry, C. S. Army, during the Civil War; for several years a member, secretary and president of the West Virginia State Board of Health; died, February 29.

**Jean B. C. Gazzo** ✠ Raceland, La.; University of Louisiana, New Orleans, 1879; aged 63; for twelve years coroner of Lafourche Parish, and for four years parish health officer; for one term president of the Louisiana Pharmaceutical Association, and for thirty years local surgeon for the Southern Pacific Railroad; died, March 14, from heart disease.

**Leonard St. John** ✠ Chicago; McGill University, Montreal, 1872; M.R.C.S. (Eng.), 1873; aged 67; at one time professor of clinical surgery in the Chicago College of Medicine and Surgery; for many years surgeon to St. Anthony's Hospital; one of the founders of the College of Physicians and Surgeons; died, April 2, from heart disease.

**Joseph Anthony Mangiaracina,** Brooklyn; University and Bellevue Hospital Medical College, New York City, 1917; aged 26; lieutenant, M. C., U. S. Navy, and on duty during the World War, at the Naval Aviation Station, Rome, Italy; a member of the Medical Society of the State of New York; died, February 14, from appendicitis.

**Phoebe Thorne Williamson,** Brooklyn; Woman's Medical College of the New York Infirmary for Women and Children, 1878; aged 70; founder of the Woman's Hospital, Poughkeepsie, and for many years a member of the staff of the Eastern Dispensary, Brooklyn; died in the Hahnemann Hospital, New York City, March 21.

**William Gaertner,** Buffalo; University of Marburg, Germany, 1886; University of Buffalo, 1894; aged 59; a member of the Medical Society of the State of New York; since 1914 president of the board of trustees of Grosvenor Library, and

✠ Indicates "Fellow" of the American Medical Association.

a member of the state board of health from 1900 to 1918; died, March 12, from pneumonia.

**Edgar Lee Lindsey,** Fort Smith, Ark.; University of Arkansas, Little Rock, 1910; aged 33; a member of the Arkansas Medical Society; lieutenant, M. C., U. S. Army, and discharged on account of physical disability, Feb. 27, 1918; a specialist on diseases of the eye, ear, nose and throat; died, March 8, from pneumonia.

**Willard Young Croxall** ✠ Hoquiam, Wash.; Jefferson Medical College, 1896; aged 50; a member of the Pacific Coast Oto-Ophthalmological Society, and a specialist on diseases of the eye, ear, nose and throat; died in the Portland Surgical Hospital, March 12, two weeks after a surgical operation.

**William Henry Hurlbut,** Fond du Lac, Wis.; Eclectic Medical Institute, Cincinnati, 1868; aged 83; for two terms state assemblyman from Walworth County, and for thirty years attending physician to the Walworth County Insane Hospital; died at the home of his daughter in Fond du Lac, March 23.

**Harry Neafie Taylor** ✠ Maricopa, Calif.; Bellevue Hospital Medical College, 1898; aged 46; president of the West Side Medical Association; city health officer of Maricopa; president of the board of school trustees, and a director of the Maricopa Bank; died, March 3, after a surgical operation.

**Aurelius Pallones,** Beltzhoover, Pittsburgh; University of Brussells, Belgium, 1886; University of Paris, France, 1887; Jefferson Medical College, 1889; aged 73; commissioned major and surgeon during the war with Spain; for five years on duty with the Ninth U. S. Infantry; died, March 16.

**George Williamson Cabaniss,** Washington, D. C.; Howard University, Washington, D. C., 1890; aged 62; a colored practitioner; once president of the Medico-Chirurgical Society and visiting physician to the Freedmen's Hospital; died, March 7, from acute gastritis.

**George Henry Ensing,** Vashon, Wash; Detroit College of Medicine, 1904; aged 37; who served as captain in the Royal Army Medical Corps during the World War, and was gassed in Flanders; is reported to have committed suicide by drowning in London, about March 21.

**George H. Grimmell,** Colorado Springs, Colo.; College of Physicians and Surgeons, Keokuk, Iowa, 1877; aged 84; a veteran of the Civil War in which he served as surgeon of U. S. Volunteers; for many years a practitioner of Des Moines, Iowa; died, March 14.

**Jacob R. Shellenberger,** Philadelphia; University of Pennsylvania, Philadelphia, 1867; aged 78; a member of the Medical Society of the State of Pennsylvania; once president of the Philadelphia Aid Society for Physicians; died, March 20, from heart disease.

**Richard Aloysius Phelan,** St. Louis; St. Louis College of Physicians and Surgeons, 1909; aged 47; a member of the Missouri State Medical Association; lieutenant, M. C., U. S. Army, and discharged, Dec. 7, 1918; died, March 14, from malignant disease.

**Benjamin Ely Braselton,** Miami, Okla.; University of Texas, Galveston, 1899; aged 43; a member of the Oklahoma State Medical Association; captain, M. R. C., U. S. Army, and discharged, March 4, 1919; died, February 9, from pneumonia.

**John T. Blank,** Elk City, Kan.; Eclectic Medical Institute, Cincinnati, 1890; aged 60; a member of the Kansas Medical Society; while driving his automobile over a grade crossing at Independence, Kan., March 29, was struck by a train and killed.

**Henry B. Brown,** Lincoln, Ill.; St. Louis Medical College, 1876; aged 68; local surgeon for the Chicago and Alton and Illinois Central systems; and surgeon to St. Clara's Deaconess hospitals, Lincoln; died, March 18, from heart disease.

**James H. Bronaugh,** Calhoun, Mo.; Missouri Medical College, St. Louis, 1871; aged 81; a member of the Missouri State Medical Association, and a charter member of the Henry County Medical Society; died, January 14.

**John Alexander Dickson,** Rock Creek, Ohio; University of Wooster, Cleveland, 1876; aged 69; local surgeon of the New York, Chicago and St. Louis Railroad; once president of the state medical board; died about March 22.

**Leroy Joe Gillespie,** Hope, Ark.; Missouri Medical College, St. Louis, 1886; aged 68; president of the Hempstead County (Ark.) Medical Society in 1893; died, February 15, from pneumonia following influenza.

**H. Murray Loewenthal,** Brooklyn; College of Physicians and Surgeons, Baltimore, 1892; aged 47; formerly superintendent of the Rubber Plantation Hospital, Elopura, British North Borneo; died, March 13.

**Richard B. Graves,** Hot Springs, Ark. (license, nongraduate, State Medical Board of Arkansas, 1903); aged 77; for more than half a century a practitioner of Hot Springs; died, March 18, from pneumonia.

**George P. Minvielle,** Jeanerette, La.; University of Louisiana, New Orleans, 1877; aged 64; a member of the Louisiana State Medical Association; died in St. Mary's Hospital, Patterson, La., March 14.

**James R. Champion,** Hilldale, Mo. (license, Missouri, 1903); aged 51; a member of the Missouri State Medical Association; and president of the Howard County Medical Society; died, March 8.

**Charles Lowndes,** Easton, Md.; University of Maryland, Baltimore 1855; aged 87; for six years a medical officer in the United States Navy; died February 24, from arteriosclerosis.

**Ralph Gardner Curtis,** Hollister, Calif.; Jefferson Medical College, 1901; aged 49; died in the University of California Hospital, San Francisco, March 22, from carcinoma of the lung.

**Warren LeRoy Ayer,** Owego, N. Y.; Long Island College Hospital, Brooklyn, 1868; aged 76; a member of the Medical Society of the State of New York; died, March 25.

**James Edward Greene,** Brooklyn; College of Physicians and Surgeons, Baltimore, 1884; aged 58; died in the Macon, Ga., Hospital, March 2, from nephritis.

**Wylie Brown,** Tucson, Ariz.; Physio-Medical Institute, Cincinnati, 1862; aged 86; for many years a practitioner of Reno County, Kan.; died, March 12.

**Hal J. Palmer,** Navasota, Texas (license, years of practice, Texas State Board of Medical Examiners, 1907); aged 83; died in Morrilton, Ark., recently.

**James William Elliott,** Boston; Bellevue Hospital Medical College, 1898; aged 45; died in the Boston City Hospital, about March 4, from nephritis.

**Jesse Clark Trueblood** ✠ Loogootee, Ind.; Miami Medical College, Cincinnati, 1879; aged 69; died, March 13, from valvular heart disease.

**Edward Oliver Brannon,** Conway, Ark.; University of Tennessee, Nashville, 1879; aged 70; died, March 11, from Bright's disease.

**Lorenzo Erasmus Norton,** Fremont, Mich.; Bellevue Hospital Medical College, 1873; aged 71; also a druggist; died, March 21.

**Charles C. Curtis,** San Pedro, Calif.; Hahnemann Medical College, Chicago, 1874; aged 76; died, March 14, from nephritis.

**Fred Carter Newcomb,** Akron, Ohio; Cleveland Homeopathic Medical College, 1898; aged 52; died, March 17, from uremia.

**Ora Haskell Lamb,** Demorest, Ga.; University of Vermont, Burlington, 1874; aged 73; died, January 15, from pneumonia.

**Michael J. Lawler,** Carthage, N. Y.; Albany, N. Y., Medical College, 1890; aged 52; died, March 7, from pneumonia.

**Edward J. Freeman,** Freemansburg, Pa.; University of Pennsylvania, Philadelphia, 1873; aged 68; died, March 14.

**Herbert Carleton Sawyer,** La Jolla, Calif.; University of California, San Francisco, 1881; aged 62; died, March 7.

**Eben Bell Kirk,** Montgomery, Ala.; University of Alabama, Mobile, 1885; died in a hospital in Montgomery, March 10.

**Sumrow Sampson Greene,** Vernon, Texas; Vanderbilt University, Nashville, Tenn., 1916; aged 25; died, February 11.

**Granville L. Gorslene,** Chillicothe, Ohio; Starling Medical College, Columbus, Ohio, 1865; aged 82; died, January 9.

**Edward F. Walsh,** Philadelphia, University of Pennsylvania, Philadelphia, 1883; aged 58; died, March 17.

**Charles Sienknecht,** Harriman, Tenn.; University of Nashville, Tenn., 1866; aged 78; died early in January.

**Michael Vandervoort,** Guthrie, Okla.; Hahnemann Medical College, Chicago, 1868; aged 77; died, March 10.

**Benjamin L. Wills,** Plant City, Fla.; University of Pennsylvania, Philadelphia, 1864; died about March 9.

**Alexander Easley Boyd,** Yoakum, Texas; Louisville (Ky.) Medical College, 1888; aged 54; died, March 7.

**John Watson Carter,** Bessemer, Ala.; University of Nashville, Tenn., 1874; aged 70; died, February 21.

# Correspondence

## DIFFICULTIES OF SECURING VITAL STATISTICS AND OF REGULATING MIDWIVES

*To the Editor:*—As an illustration of the difficulties of securing birth and death registration, I am enclosing copy of a certificate of death received at our office, which we afterward found to be due to hydrocephalus, the physician being, as stated, in the war. The spelling is exactly as given:

this deth wos from magnesium of the bran the Dr wated on this child is in wor surves.

We also enclose a letter which we have just received from one of our midwives showing the task which we have before us in our effort to teach these women to be safe obstetricians:

Dear Sirs: i an sending for more eye drops i am only got two in the box please send me a bottle of that medecine to give the paceions after the babies is born and send me some blue mas pills to wash my hands in please I wrote to you sometimes ago to send me the papers i havent got but two planks what is the reason you havent sent them it is time i was getting them in for this year please try to get the medecine and pills here some time in april for i will want them now very soon send me two packages of blanks about what last a year i have only two more pacions every one i have had the doctor with me and he fills every blank i sended in i have had good luck with all my pacions i am asking of you kindly of you please send me a gum coat ands boots i go night and day and i have nothing to preteck me from the rain i am not able to get one myself so far send me seven boxes of eye drops nomore at present answer as soon as you get my letter for i an needing them
from the midwife
oh please send me 1 bottle of worme medecine."

H—— W——, Hume, Va.

To this we answered:

*Dear Madam:*—We have your letter and are sending you four ampules of eye drops. We do not send them in bottles. You stick a needle in the end of the wax and squeeze the drops out into the baby's eyes.

We do not send the blue antiseptic tablets. We want to warn you, however, against calling them blue mass pills. Blue mass is a medicine which is taken in the mouth to act on the bowels. These blue flat tablets are rank poison and would kill any one taking them, thinking that they were blue mass. They are to be used, one tablet to a quart or pint of water to bathe the hands and not for internal use. Do not forget that, and do not call them blue mass. It might fool some one into taking them. They are corrosive sublimate tablets. Never, never call them blue mass again.

We do not think these tablets are safe for any one who has no more sense than that. It is much safer for you to get a cake of germicidal soap and use that. You can get it from Miss Quisenberry, who will send you an advertisement for it, or you can get it from a drug store there perhaps.

We are sending you also some blanks. You asked also for worm medicine. We do not furnish that. Are you crazy, or what is the matter with you? Do you think we can send you a gum coat and boots? We are afraid you have not sense enough to do that kind of work and are afraid we will have to take your permit away from you.

Remember that you must never put your finger inside of a patient for any purpose at all. That is absolutely against the law. Do not forget that. Read all the rules on the back of your permit and practice according to them.

In spite of the material that we have to work with, the puerperal death rate was reduced from 497 in 1917 to 333 in 1919. The latter figures, however, will be somewhat increased by delayed reports. This, we take it, means the saving of perhaps 150 lives of mothers, with perhaps as many more infants. This has been done by circular letters, bulletins, booklets and personal correspondence.

W. A. PLECKER, M.D., Richmond, Va.
State Registrar.

## NO PHYSICIAN OR SURGEON AS YET IN THE HALL OF FAME

*To the Editor:*—Soon there will be the fifth quinquennial election to the Hall of Fame. The first took place in 1900 immediately after the funds had been given anonymously for the building of a permanent monument to the men and women who had contributed most to the nation's well-being and culture. According to the constitution it was agreed that at the first election fifty national figures in art, science and history should be chosen, and that thereafter five were to be added every five years.

The method of procedure is such as to allow no question as to the person's eligibility. The senate of the New York University, made up of the dean and senior professor of each of the university schools with the presidents or other representatives of each of the great theological schools in or near New York City, chooses the electors. There are a hundred of these. Every state is represented by at least one man. These hundred men are chosen by virtue of their eminence in some branch of national culture. They fall into seven main divisions: authors, presidents of universities or colleges, scientists, professors of history, jurists, high public officials or men or women of affairs, and editors. Dr. Charles H. Mayo, Rochester, Minn., is one of the electors. When the names are sent in to the senate of the university they are considered on the basis of constitutional qualifications. Not the least important of these qualifications is the one requiring that the nominee must have been deceased at least ten years.

William T. G. Morton, the discoverer of ether anesthesia, was once proposed under Group VII—Physicians and Surgeons—but failed in the election. I hope there will be no barrier to renominating the "inventor and revealer of anesthetic inhalation, before whom in all time surgery was agony."

The next two greatest figures in American medicine and surgery are perhaps Ephraim McDowell and J. Marion Sims. McDowell performed the first rational and deliberate ovariotomy, which he did in 1809, and of course without an anesthetic; his patient living for thirty-two years after the operation. As is well known, J. Marion Sims (1813-1883) gained for himself a national and international reputation by his invention of the speculum as an instrument for the treatment of pelvic diseases in women, and by his perfecting the plastic operation in the vagina for the relief of vesical fistulas.

The nominations must be sent in before May 1. Besides erecting the tablet in the Hall of Fame, the senate of the New York University is now considering collecting the works, where it is possible, of all the men and women who have thus been honored by the nation. They hope in this manner to create a valuable "Americana," open for study and inspection.

While there may be other great physicians and surgeons in the past generations who have so distinguished themselves as to be worthy to be classed with "America's greatest," I venture to say none has surpassed the achievements of Morton, McDowell and Sims. These were real pathfinders in science and added to human happiness and well-being and the glory of the American medical profession.

S. ADOLPHUS KNOPF, M.D., New York.

## REQUEST FOR REPRINTS ON RESEARCH IN PHYSIOLOGY, PHYSIOLOGIC CHEMISTRY AND PHARMACOLOGY

*To the Editor:*—While I was visiting the Medical School of the University of Louvain, last January, the professor of physiology in that institution asked me to help him, if possible, in procuring reprints dealing with American research along the lines of physiology, physiologic chemistry, pharmacology and related subjects. American writers desiring to aid the department at Louvain may address reprints to Dr. A. K. M. Noyons, Professor of Physiology, University of Louvain, Louvain, Belgium.

RICHARD M. PEARCE, M.D., New York.

**County Health Administration.**—The county government is the only normal and permanent channel through which governmental policies make the individual contact. The county government is the organ of application in health administration.—W. S. Rankin, *Tr. Assn. Life Ins. Presidents*, 1919.

## Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### REMOVAL OF FRECKLES

*To the Editor:*—The following prescription, written by Hebra, the dermatologist, is recommended particularly for the removal of freckles. This prescription in my hands has not given satisfaction in the treatment of freckles, and I am wondering whether it would be wise to increase the amount of mercury or use another drug. Unna, the Hamburg dermatologist, uses mercury in the same strength.

W. J. O'Donnell, Buffalo.

PRESCRIPTION

| | |
|---|---|
| Bismuthi subnitratis | gr. xxx |
| Sodii boratis | gr. xxx |
| Hydrargyri ammoniati | ʒ i |
| White wax | q. s. ad ʒ i |

Answer.—This prescription will not remove freckles. There is not enough of ammoniated mercury in it even to be irritating to the ordinary skin. Solutions of mercuric chlorid in a strength of from 0.5 to 1 per cent. are used, under medical supervision for the removal of freckles. They cause a dermatitis and exfoliation of the epidermis, and with that most of the pigment. The effect, however, is only temporary at best, and usually not worth the irritation and effort that it costs.

### PRONUNCIATION OF DUODENUM

*To the Editor:*—Will you be good enough to give me the correct pronunciation of "duodenum," giving by proper diacritical markings the sound of each vowel?

Alice H. Merritt, San Diego, Calif.
Librarian, Medical Library Association.

Answer.—Duodenum is pronounced dew-owe-dee'num, with the accent on the third syllable.

It rhymes with the first three words in the sentence: "You owe freedom to the Great Emancipator."

The first vowel, "u" (yoo), retains the y element to a certain degree, though the sound of the double o in moon is permissible.

The second vowel, "o," is long and is distinct from the first.

The third vowel, "e," is long, and takes the accent.

The fourth vowel, "u," is short.

Some dictionaries mark a secondary accent on the first syllable.

## Medical Education, Registration and Hospital Service

### COMING EXAMINATIONS

Arkansas: Little Rock, May 11-12. Sec. Regular Bd., Dr. I. J. Stout, Brinkley. Sec. Eclectic Bd., Dr. C. E. Laws, Fort Smith.

District of Columbia: Washington, April 13-15. Sec., Dr. Edgar P. Copeland, the Rockingham, Washington.

Hawaii: Honolulu, May 10-14. Sec., Dr. R. W. Benz, 1141 Alakea St., Honolulu.

Louisiana: New Orleans, May 4. Sec., Homeo. Bd., Dr. F. H. Hardenstein, 702 Machesa Bldg., New Orleans.

Nevada: Carson City, May 3. Sec., Dr. Simeon L. Lee, Carson City.

New Mexico: Santa Fe, April 12-13. Sec., Dr. R. E. McBride, Las Cruces.

New York: New York, Albany, Syracuse, Buffalo, May 18-21. Assistant, professional examinations, Mr. Herbert J. Hamilton, Education Bldg., Albany.

Oklahoma: Oklahoma City, April 13-14. Sec., Dr. J. M. Byrum, Shawnee.

West Virginia: Charleston, April 13. Sec., Dr. S. L. Jepson, Masonic Bldg., Charleston.

### AMERICAN CONFERENCE ON HOSPITAL SERVICE

The third meeting of the American Conference on Hospital Service was held in the Congress Hotel, Chicago, March 3, 1920, following the annual meeting of the Council on Medical Education. The plans for this meeting were slightly disarranged owing to the illness of the first vice president, Dr. A. R. Warner. The meeting was called to order by Dr. John M. Dodson. Dr. Alexander Lambert, president of the American Medical Association, was elected as temporary chairman. About fifty delegates were present, representing the following organizations: American Association of Industrial Physicians and Surgeons; American Association of Hospital Social Workers; American College of Surgeons; American Hospital Association; American Medical Association; American Nurses' Association; Association of American Medical Colleges; Catholic Hospital Association of the United States and Canada; Federation of State Medical Boards; Medical Department, U. S. Army; Medical Department, U. S. Navy; National League of Nursing Education, and National Organization of Public Health Nurses.

The first topic for discussion was the need for women trained in the fundamentals of nursing. After considerable discussion, it was voted to refer the whole subject to the Committee on Nursing, the members of which were later decided on.

At the second meeting, held in Cincinnati in September, 1919, it had been planned to establish several committees. The personnel of four of these was named as follows:

Committee on Interns: Dr. John M. Dodson, chairman, A. M. A.; Dr. John M. Baldy, Philadelphia, F. S. M. B.; Dr. Guy M. Cushing, Chicago, F. S. M. B; Lieut.-Col. L. J. Owen, M. C., U. S. Army, Washington, D. C.; Miss Bena M. Henderson, Chicago, Children's Memorial Hospital, N. L. N. E.; Rev. P. H. Mahan, Loyola Medical School, C. H. A.; Dr. E. S. Gilmore, Wesley Hospital, Chicago, A. H. A.; Miss Edna G. Henry, A. A. H. S. W.

Committee on Hospital Service, Record and Standardization: John G. Bowman, Chicago, A. C. S., chairman; Col. William N. Bispham, M. C., U. S. Army, Washington, D. C.; Miss Mary Wheeler, A. N. A.; Dr. B. F. McGrath, Milwaukee, C. H. A.; Dr. Clarence D. Selby, Toledo, A. A. I. P. S.; Asa A. Bacon, Presbyterian Hospital, Chicago, A. H. A.; Miss Edna G. Henry, A. A. H. S. W.

Committee on Social Insurance: Dr. Otto Geier, Cincinnati, A. A. I. P. S.; Miss Minnie Ahrens, Chicago, A. N. A.; Miss Elnora Thompson, N. O. P. H. N.; Rev. Maurice F. Griffin, C. H. A.; Miss Edna Foley; Miss M. Antoinette Cannon, A. A. H. S. W.

Committee on Nursing: Miss Mary Wheeler, Illinois Training School for Nurses, Chicago, A. N. A., chairman; Lieut.-Col. Floyd Kramer, M. C., U. S. Army, Washington, D. C.; Miss Louise M. Powell, University Hospital, Minneapolis, N. L. N. E.; Rev. M. P. Bourke, Ann Arbor, C. H. A.; Dr. Louis H. Burlingham, Barnes Hospital, St. Louis, A. H. A.; Miss Elnora Thompson, Illinois Mental Hygiene Society, N. O. P. H. N.; Miss M. Antoinette Cannon, A. A. H. S. W.

It was planned to have the next meeting of the conference in connection with the annual session of the American Hospital Association, which meets in Montreal, Oct. 4-8, 1920.

A meeting of the trustees of the conference was held on Thursday, March 4, which was attended by Rev. Charles B. Moulinier, Miss Edna G. Henry, Col. James Glennan, Mr. John G. Bowman and Dr. Harry E. Mock. Father Moulinier acted as chairman.

It was planned to have each organization in membership in the hospital conference present a report at the next meeting outlining its ideas in regard to improving hospital service. These reports will be summarized by a special committee composed of Dr. John M. Dodson, Miss Mary Wheeler, Miss Edna G. Henry, Col. James Glennan and Father James B. Moulinier. It was decided that the fifth meeting would be held jointly with the annual conference of the Council on Medical Education, early in 1921.

### Arkansas November Eclectic Examination

Dr. Claude E. Laws, secretary of the Eclectic Board of Medical Examiners, reports the oral and written examination held at Little Rock, Nov. 11-12, 1919. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Of the 3 candidates examined, 2 passed and 1 failed. The following colleges were represented.

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| American Medical College | (1876) | 86.3 |
| Kansas City College of Medicine and Surgery | (1918) | 81.5 |
| FAILED | | |
| Kansas City College of Medicine and Surgery | (1919) | 62 |

# Social Medicine and Medical Economics

## EFFECTS OF COMPULSORY HEALTH INSURANCE ON THE PRACTICE OF MEDICINE

M. L. HARRIS, M.D.
CHICAGO

At the close of the previous article (March 27, 1920, p. 908), it was stated that the effects of compulsory health insurance on the medical profession would next be considered. This phase of the subject is in a sense a secondary matter. By this is meant that if compulsory health insurance were a good thing, of unmistakable benefit to the people in general, and a distinct step forward in sociological evolution, then the medical profession would have no just cause for complaint, notwithstanding the fact that it might prove harmful to the best interests of the profession itself. The interests of a small class can never be paramount to that of the whole. Any measure which would be beneficial to all classes must necessarily be beneficial to the medical profession, and, on the other hand, a measure that would be harmful to all classes must be harmful to the profession. If a measure, however, is of negative or even doubtful advantage to the general community, then it becomes not only the privilege but the duty of physicians to point out wherein the measure may prove to be harmful to their own interests. In the present instance, the duty is a double one, for the reason that the harm which may be done the profession is reflected, or passed on to the people.

### FUNDAMENTAL DEFECT OF COMPULSORY HEALTH INSURANCE

Speaking entirely from the point of view of the physician, the harmful effects of compulsory health insurance do not lie in the fact that a large percentage of the people are compelled to take out health insurance; if that were the only factor in the case, it would be an advantage to the profession, as it would result in many physicians receiving a much larger income than they now enjoy. However, one should not favor or oppose a measure pertaining to the public welfare merely on account of the possible effect which the measure might have on one's personal income. The fundamental defect of the scheme lies in the fact that the major portion of the benefits that the insured are to receive consists of medical services when ill, and the state presumes to dictate the terms of these services, thus placing them on a purely commercial or business basis. A bunch of sheep may be rounded up, sheared and dipped for the scab all alike at so much a head; but sick human beings cannot be successfully treated in that manner. The personal element is a most important factor in the treatment of the sick, and it cannot be ignored except to the disadvantage of both the patient and the physician. Inanimate objects can be dealt with in a purely impersonal manner, and the transaction may be placed on a strictly business basis. Even dumb animals may be handled in this way; but when it comes to intelligent human beings, each one must be handled as an individual. They cannot be bunched together and treated by the job lot.

Compulsory health insurance, wherever it has been introduced up to the present time, has carried with it some form of contract practice. The state agrees to furnish the insured with medical services when sick as part of the benefits to be received for the premium paid. The state then proceeds to contract for the services just as it would for so much coal or groceries or any other commodity, failing to appreciate the fact that medical services cannot be measured by the ton or bushel. There is no other service so individual and so personal as medical service. The confidence which an individual may have in his physician and which is often a material factor in the treatment of his illness is something which cannot be forced on one, and the personal interest which a conscientious physician has in the welfare of his patient, whether rich or poor, is something that cannot be bought. Anything which interferes with this mutual relationship between patient and physician is detrimental to both. When a patient is compelled to accept the services of a physician in whom he lacks confidence, however, unfounded that lack of confidence may be, there is found to be a failure of that perfect cooperation which is so essential if the best and speediest results are to be obtained. The conscientious physician who feels that he is called on to treat a patient who he knows has come to him only because he is compelled to and not because he wants to, unconsciously fails to give that patient the best that is in him. The finer sensibilities of both parties are offended, and this is frequently manifested on the part of the patient by a tendency to find fault with the physician, to imagine that he is not receiving the care and attention to which he is entitled.

It is characteristic of those who receive something for nothing, or something that they look on as their right, to find fault and to claim that they are being cheated out of their just deserts. And sometimes their complaints are not entirely without foundation, for the physician, blunted by the circumstance of the purely commercial relation between himself and the patient, fails to exhibit to the fullest extent the humane side of his calling. Contract practice tends to give poor service to the patient and to lower the standard of the profession, both of which must be detrimental to the welfare of the people. The patient who doesn't receive the best that medicine offers is defrauded of something to which he is entitled; yet it cannot be expected that the physician who is underpaid, and whose services are disposed of by the state, by wholesale, can give the best that is in him. It has long been observed that physicians who by reason of circumstances, or otherwise, have been forced into contract practice fail to develop medically and are soon found to be behind the times in their work. However altruistic an individual may be at times, there is no question but that a certain amount of self-interest dominates the actions of men. And it is well that such is the case, as otherwise it is scarcely conceivable that progress would be made.

### HARMFUL EFFECTS IN GERMANY

That the foregoing statements are not simply an expression of opinion, but are facts founded on experience, is shown by the effects which compulsory health insurance laws have had on the medical profession in the countries in which they have been adopted. In Germany, the birthplace of compulsory health insurance, that large part of the medical profession that lived by the "krankenkassen" was reduced to a low state of scientific development, and for twenty years or more put up an almost continuous fight against underbidding and cheap and inefficient medical service. The physicians had to resort to strikes in order to secure for their work sufficient compensation to enable them to earn a bare living. The services rendered by the "hausarzt" were inferior in quality, yet entirely in keeping with the low compensation received. An underpaid medical profession means an underdeveloped profession. The making of a physician is not like the making of a bricklayer or a baker; when the latter have learned their trade it is only necessary for them to apply what they have learned, and their work is just as good today as it was yesterday and as it will be tomorrow. In medicine it is very different. A physician never fully perfects himself in his profession, as medical science is advancing and he must spend a certain amount

of time and money practically every day in order to keep up with the advancement. There are no union hours for the physician; all hours of the day and night are work hours for him, and if all of his time is taken up in earning a meager living he soon falls so far behind in his knowledge that he is able to render but poor and inefficient service to his patients. Under such conditions, it is evident that not only the profession but also the community must suffer.

For a time much was heard about the supposed wonderful efficiency of the German people; but at last the germanophilic glasses were struck from our eyes, when the true condition at once revealed itself. The assumption by the government of the obligations of the individual as exemplified in one of its phases by compulsory health insurance, in order that the individual might be able to devote more of his time and energy to the building up of the government, brought forth a people devoid of every sense of obligation, moral or otherwise, and this was one of the factors which led to the government's eventual downfall.

### UNSATISFACTORY WORKING OF THE SCHEME IN ENGLAND

What was true concerning the harmful effects of compulsory health insurance on the profession and the people in Germany is fast becoming so in England, the last country to adopt a compulsory health insurance act. That the act is not a success in England is evident from the reports that come from that country.

Concerning the subject of compensation for medical services under the insurance act, Sir Bertrand Dawson in the Cavendish Lectures delivered before the West London Medico Chirurgical Society, in 1918, said:

> As regards remuneration, justice demands reform. When we consider the exacting nature of the doctor's life, the long hours, disturbed nights, high tension of his work, it is only just he should be so paid as to live a reasonable life without anxiety. That is not so now. Take a doctor who may get £30 a year net for a panel of 350 patients, or innumerable instances of doctors being paid salaries which workmen would reject with contumely. These things must be changed. If only the truth is presented, this cannot be continued. Pecuniary reward goes too much to the man with physical endurance and plausible tongue, and too little to the man possessed of brain and conscience.

In The Journal, Feb. 14, 1920, p. 474, the London correspondent wrote that the panel physicians had demanded from the government an increase of the capitation fee, claiming that the cost of living had gone up so high that they were unable to get along on the present small capitation fee. A small advance was offered by the government, which the deputation felt bound to its constituents not to accept, and asked for arbitration. The government yielded to the demand for arbitration, but said that it reserved the freedom to institute an inquiry into the question of whether services as good or better could be secured with the same or less expenditure of money under some other system. This is a fair illustration of what contract practice means under government control. The government by the minister of health felt constrained to yield to the demand of the panel (contract) physicians for arbitration of the question of the capitation fee, yet at the same time it reserved the right to see if it could not secure the same services for less money under some other system. Any system that could be devised must include the physician, and if the physician is unable to earn a decent living under existing fees, how could the government expect to get the work done for less money without still further reducing the income of the physician or the amount and character of the medical services rendered? Under the former plan the physician would have to suffer, and under the latter, the patient.

Again, in The Journal, Feb. 28, 1920, p. 615, the London correspondent stated that the minister of health "received a deputation from the British Federation of Medical and Allied Societies with regard to the national insurance act. The deputation came to emphasize the fact that national health insurance did not permit the insured persons to receive all that the science of medicine had to give, and under the regulations the physician was not able to do the effective work he was willing and anxious to do. . . . The insured public asked for bread and were given a stone. They asked for health and were given regulations which seemed to be chiefly designed to catch the erring physician in some fault. The tendency of the regulations was to impair the efficiency of the health services. . . . The deputation suggested a public inquiry into the working of the act." Does this sound good for compulsory health insurance, when the insured ask for bread and are given a stone, when they ask for health and are given rules and regulations? Do the American people want to introduce into our free form of government a compulsory measure of that kind? Does the medical profession want to place itself in a position in which it must beg the government to permit it to earn enough to live on, or in a position in which the ability to earn a decent living depends on the question of physical endurance rather than brains and conscience? What hope is there for the advancement of medicine when stifled by such laws?

### IMPROBABILITY THAT THE SYSTEM WOULD WORK BETTER IN THIS COUNTRY

Any person practicing as a vocation a profession, such as medicine, which requires one to spend so much time and work trying to keep abreast with the progress constantly being made, must possess individualism and freedom of thought and action if he would satisfy his own conscience and bring to his patients the kind of service to which they are entitled.

Contract practice, which has been a part of every compulsory health insurance act up to date, operates in opposition to the physician's success, both from his own point of view and from that of the patient. It is claimed, however, by some of those who favor compulsory insurance that we in America will profit by the mistakes made by those countries that have already adopted such laws. That some of the bad features contained in the acts already in operation in some of the foreign countries might be eliminated seems probable; but it is highly improbable that any system of compulsory health insurance can be devised in which the conditions of medical service and the compensation therefor are under state supervision and control which would not be detrimental to individual and collective medical progress. That the income of a few might be augmented by an insurance act is quite likely; but, as often stated, it is not the advantage of a few but the good of the whole that must be considered. One frequently hears the remark that compulsory health insurance is bound to come sooner or later, just because it has been introduced in other countries. One might as well say that bolshevism or anarchy or Mohammedanism are bound to come, just because they came to other countries. Nothing of this kind is bound to come to a free country that is not the will of the people. The psychologic effect of the frequent repetition of such foolish statements has often led people to do that which they would not have done had they been governed by reason. This is one of the occasions when action should be guided by sound reason and not stampeded by psychology.

An attempt has been made to present the subject of compulsory health insurance in an impartial manner. If it has been shown that the scheme is not a desirable one, from the point of view either of the public or of the physician, there still remains an important problem. This problem concerns the best method of providing the highest type of medical service to all persons at prices within the reach of all. It is a problem which should be solved by the medical profession itself.

## Book Notices

HEART: PAST AND PRESENT. By Edgar Lea, M.D., M.R.C.P., Assistant Medical Officer, Manchester Royal Infirmary. Cloth. Price, $2.50. Pp. 300. New York: William Wood & Co., 1919.

This is a readable collection of thoughtful essays on heart disease. Nearly a third of the book is devoted to a historical review of cardiology. The development of various views concerning the heart, from the time of Harvey to the present, is briefly set forth by one who is evidently conversant with the subject and who has read and studied Corvisart, Laënnec, Stokes and others, not alone because he thus acquired an important background of knowledge but because he has the pure delight of the bibliophile in reading the authors of the past. Possibly the still fresh war memories may account for the omission of some German and Austrian names like those of Virchow and Skoda, for example; we are sure it is not lack of knowledge. The present status of cardiology is clearly set forth and there is a systematic discussion of the problems that confront us today. Emphasis is laid on the necessity of a more careful study of symptoms and signs and a not too implicit reliance on laboratory methods and instruments of precision. In this way a more accurate diagnosis or prognosis may be attained and a more rational therapy achieved. The work is not intended as a textbook. It is, as the author states, a plea for a more intensive clinical study of the heart. As such it will be found interesting and stimulating.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. For Indian Medical Students and Clinical Assistants. By C. C. Caleb, M.B., M.S., Professor of Physiology, King Edward Medical College, Lahore. Cloth. Price, 6 rupees net. Pp. 252. Calcutta: Butterworth & Co., 1919.

While intended as a laboratory manual for students in physiologic chemistry, this book has some advantage over many other laboratory manuals on the subject in that it is sufficiently complete to be of practical value to the clinician. The commonly used analytic methods are described, the relations of chemical findings to diagnosis are briefly explained, and other useful information is given in a condensed form. The physician who occasionally makes analyses of the body fluids or excretions will find the book helpful.

YOURS FOR SLEEP. By William S. Walsh, M.D. Cloth. Price, $2.50 net. Pp. 274. New York: E. P. Dutton and Company, 1920.

While not any too scientific, this is a practical book; the author has written a common-sense statement concerning insomnia. Since untroubled sleep presupposes a healthful body and a healthful life, his book resolves itself into a manual of personal hygiene. The final chapter, "Remedies for Sleeplessness," presents no new fad or fancy, but is a sensible discussion of simple time-tried and effective methods. The book can be recommended to sufferers from insomnia, who should read it during the day and not in bed, just before going to sleep. It is not a soporific.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS. By John C. DaCosta, Jr., M.D., Fourth edition. Cloth. Price, $4.75 net. Pp. 602, with 225 illustrations. Philadelphia: W. B. Saunders Company, 1919.

In this edition, new matter concerning gas edema, gas pneumonia, influenzal pneumonia and hilum tuberculosis appears under the discussions relative to the lungs and the effort syndrome. New material on the functional capacity of the heart, aviators' heart and sino-auricular block appears under the heading of "The Heart." The clinical relation and physical signs of cecum mobile are dealt with in detail. The book is a standard text of merit.

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**Kingsport, Tenn., a Rival of Framingham.**—Kingsport is starting out to be another "health town," and also under the general supervision of the Metropolitan Life Insurance Company. Periodic physical examinations will be made and follow-up of defects and impairments. Results in these two towns will be compared.

## Medicolegal

### "The Great Exorcism" and Mental Healing

*(Crane v. United States (U. S.), 259 Fed. R. 480)*

The United States Circuit Court of Appeals, Ninth Circuit, in affirming a judgment of conviction of defendant Crane, says that he was convicted under fifteen of twenty counts for having devised a scheme and artifice to defraud, and to obtain money and property by means of certain false pretenses, and promises, and by means of hypocritical doctrines written and advocated by him, and of using the mails of the United States in carrying out the scheme charged. It was alleged that he was the author of books and other kinds of literature and letters and advertising matter in which he attributed all human suffering, physical or mental, to certain mysterious influences, and that he represented that he possessed supernatural powers, with power to save victims from the influences. The literature was alleged to set forth that the defendant could be called on by night or by day by any one desiring treatment, and the method of treatment was that the party being treated should relax, breathe deeply, and with every outgoing breath say that he was unloading all his care on Arthur Crane; that the party receiving treatment was to take the position that he was breathing out all of his own opinions, desires, and all of his knowledge and possessions, that he knew nothing, owned nothing, wanted nothing and believed nothing; that he was not to resist any unpleasant or evil thought that came to him, but was to let the said Crane do all of the resisting for him, and that he was to know consciously that he was calling Crane and breathing in his alleged perfect vitality and harmony. Before relaxing, the party receiving the treatment was to write to Arthur Crane and tell him the time which he desired for his treatment; that when the treatment was given the party receiving it must accept it freely and with the idea of being benefited without rendering any return to the defendant, who represented that he transmitted the "Christ power," and administered for good and not for profit from the sale of his books. To one man he wrote that he had answered all of the "problems" in the new $2 edition of his book, "The Great Exorcism," which contained, "among other good things," instructions for healing and relaxing, and which was well worth $5, and continued: "So if you will send me $1 toward its price I will give you credit for the $1 you sent before, and mail you the $2 book complete. Because I have answered your particular problems in this edition, I feel it is absolutely vital to you to have a copy." Some of his letters referred to money to be sent for treatment as not the defendant's money, but money that must be sent as a gift for his aid in casting out "influences." It was also in evidence that in some of the literature the defendant said he would not charge for his treatments, but the evidence was that in several instances, when a subject or confiding person sought his advice, he would speak of the sacrifice to be made, and then would ask for such giving as the sacrifice warranted. A former employee testified that the system with which the work was carried on was that, after the party had become engrossed in the work, and it was time for a sacrifice, that is to say, if the party had stuck it out long enough and had a proper disposition, he was sure to get a "sacrifice letter." It was elaborately argued that there is "nothing inherently wrong in the theory of mental healing." In a general way that is conceded. The law, however, prohibits a scheme or artifice to defraud by means of false representations, and the use of the mails in executing the purposes of the scheme. One with corrupt purpose may devise a scheme to defraud by employing an alleged mental power to relieve suffering of mind or body, and may use the mails to carry out his corrupt scheme. From the voluminous record containing letters, circulars and oral testimony, it was very clear that the court properly submitted to the jury the question whether the representations made by the defendant were fraudulently

and intentionally false, or were honestly made, or mere errors of judgment. One witness testified that he submitted to treatment for nearly two and one-half months; that sometimes he would go to sleep after treatment and have horrible dreams, such, for instance, as that a she-devil had set a cancer in his legs, and it commenced to eat up his legs past the ankles. He said that he wrote to Crane that he thought the "queen of hell, one of his characters, had charge of the switch board," and that he didn't want any more treatments from him; that the book "The Great Exorcism" described thirteen devils; that the descriptions in the book concerning the various devils upset the witness.

### Prescribing and Furnishing Narcotic Drugs Under Minnesota Law

*(State v. Whipple (Minn.), 173 N. W. R. 801)*

The Supreme Court of Minnesota, in affirming a judgment of conviction of the defendant, a licensed physician, of the violation of Chapter 260 of the Laws of Minnesota of 1915, prohibiting the sale of narcotic drugs, says that the particular charge was that, Jan. 21, 1918, the defendant sold 6 grains of morphin to one Chandler, who was a habitual user of the drug. The defendant admitted that, on this date, he gave to Chandler 6 grains of morphin, and received $4 from him; but he claimed that he had been treating Chandler since September, 1917, for the drug habit by the gradual reduction method, and that this transaction was a part of such treatment. The evidence on the part of the state was that the defendant sold the morphin to Chandler without any pretense of professional treatment. The trial court instructed the jury that, under the statute, physicians are not permitted by law to sell or furnish to habitual users, out of stocks kept on hand for any purpose, these habit-forming drugs; that all sales and deliveries of such substances to victims of the habit, whether for the purpose of curing the habit or any other object, must be made, if at all, by a pharmacist or druggist, and by him only on a physician's prescription, under the safeguards imposed by law in respect to such sales; that the question whether this particular drug was administered or furnished in good faith or not was not material, and that the statute makes a distinction between the disposal, prescription and furnishing of these drugs to habitual users and to ordinary patients. In the case of patients not addicted, a physician is permitted in the usual course of his practice to prescribe them and also to furnish them. As regards habitual users, the statute first prohibits anybody from either furnishing or prescribing the drug to that class of people. But that is qualified by the permission, in the case of a physician, who in good faith has an addict under treatment for the cure of the habit, to give him a prescription on which he can procure the drug. The physician is forbidden, however, by this statute to furnish the drug himself. The supreme court thinks that the trial court correctly construed the statute. There is a plain difference between "prescribe" and "furnish." To "prescribe" is to give medical direction, to indicate remedies. To "furnish" is to supply or provide. This is the ordinary meaning of these terms. Both words are used, obviously with this distinction as to meaning, in the federal narcotic law of 1915. The context makes plain the intention so to use the words in the Minnesota statute. It was the purpose to require two persons to be concerned in the supplying of narcotic drugs to addicts under the conditions as to publicity which the statute requires in the case of prescriptions. In view of the strict requirements of Section 1, as to the record to be kept by a physician administering the drug to a patient not an addict, it is quite inconceivable that the legislature should have intended that a physician might furnish the drug to an addict without any safeguard or provision for record at all. It was competent, too, for the state to introduce evidence of other sales of morphin to Chandler and of the sale of morphin to other drug addicts, in violation of the statute. Evidence of this character is admissible if it is part of one plan or scheme carried on by the defendant wilfully to violate the law, or if it tends to show an inclination or predisposition to commit the offense charged.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, New Orleans, April 26-30.

Air Service Medical Assn. of the U. S., New Orleans, April 26.
Alabama State Medical Association, Anniston, April 20-22.
Alpha Omega Alpha Honorary Fraternity, New Orleans, April 26.
American Association of Anesthetists, New Orleans, April 26-27.
American Association of Physicians, Atlantic City, May 4-5.
American Association for Thoracic Surgery, New Orleans, May 1.
American Dermatological Association, Asheville, April 22-24.
American Gastro-Enterological Assn., Atlantic City, May 3-4.
American Gynecological Society, Chicago, May 24-26.
American Laryngological Association, Boston, May 27-29.
American Medico-Psychological Assn., Cleveland, O., June 1-4.
American Otological Society, Boston, May 31-June 1.
American Pediatric Society, Highland Pk., Ill., May 31.
American Proctologic Society, Memphis, Tenn., April 22-23.
American Psychopathological Assn., Cleveland, O., June 5.
American Radium Society, New Orleans, April 26.
American Surgical Association, St. Louis, May 3-5.
American Therapeutic Society, Philadelphia, May 7-8.
Arizona Medical Association, Nogales, April 16-17.
Assn. for Study of Internal Secretions, New Orleans, April 26.
Assn. of Amer. Teachers, Diseases of Children, New Orleans, April 27.
Assn. of Military Surgeons of the U. S., New Orleans, April 24.
California State Medical Society, Santa Barbara, May 11-13.
Connecticut State Medical Society, New Haven, May 19-20.
Georgia Medical Association, Macon, May 6-8.
Illinois State Medical Society, Rockford, May 18-20.
Iowa State Medical Society, Des Moines, May 12-14.
Kansas Medical Society, Hutchinson, May 5-6.
Louisiana State Medical Society, New Orleans, April 24-26.
Maryland, Med. and Chir. Faculty of, Baltimore, April 27-29.
Medical Veterans of the World War, New Orleans, April 26.
Michigan State Medical Society, Kalamazoo, May 25-27.
Mississippi State Medical Association, Jackson, May 11-12.
National Tuberculosis Association, St. Louis, Mo., April 22-24.
Nebraska State Medical Association, Omaha, May 24-26.
New Hampshire Medical Society, Concord, May 12-13.
North Carolina State Medical Society, Charlotte, April 20.
Ohio State Medical Association, Toledo, June 1-3.
Oklahoma State Medical Association, Oklahoma City, May 18-20.
Rhode Island Medical Society, Providence, June 3.
South Carolina Medical Association, Greenville, April 20-21.
So. Section Am. Laryn., Rhin. & Otol. Society, New Orleans, Apr. 27.
Texas State Medical Association, Houston, April 22-24.
The Radiological Society, New Orleans, April 23-24.
Western Electro-Therapeutic Association, Kansas City, Mo., May 27-28.
West Virginia State Medical Association, Parkersburg, May 18-20.

## ANNUAL CONFERENCE ON PUBLIC HEALTH AND LEGISLATION

*Held under the auspices of the Council on Health and Public Instruction of the American Medical Association, March 4, 1920*

*(Concluded from page 975)*

### Health Education in the Public Schools—T... Years' Experience in Michigan

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The State Board of Health of Michigan was the second state board of health provided for in this country. The first was in Massachusetts. It is interesting to know that the creation of the Michigan State Board of Health was due to the large number of accidents from the explosion of kerosene lamps, and the discussion at that time about arsenical paper.

In 1865, Villemin, a French army surgeon, experimented with transmission of tuberculosis. On the work of Villemin published in 1868, the Michigan State Board of Health started to preach to the people of Michigan that tuberculosis was a transmissible and preventable disease. It did so by holding sanitary conventions. We started out with four conventions a year, each one in different parts of the state, teaching that tuberculosis and various other diseases were transmissible and therefore preventable.

In 1895 a bill was framed and passed by the legislature compelling teaching on the manner of transmission of disease in every grade in every school in Michigan, from the primary grades to the university. I think the passage of that law was the most effective work we ever did. This bill was modified in 1897, and is now a fairly effective law. In 1915 the legislature allowed us by a unanimous vote an appropriation of $100,000 to continue demonstration work in tuberculosis in Michigan. We have had a relatively low death rate from tuberculosis; we are going to have a higher

death rate because many of our cities are being crowded, especially the larger ones, by an ignorant foreign population. Our death rate has been about one half of what it has been in the New England states, but that is not altogether due to the educational movement. In this work it is essential to reach the children.

**Health Education and Activities in Colleges and Universities**

DR. JOHN SUNDWALL, Minneapolis: A university health service is concerned with physically sound students—both in the attainment of positive health and in the continuance of this health during the academic and postacademic life. Related activities of a university health service are: protection of the sound student from communicable diseases; detection, isolation, and provision for the treatment and care of all students suffering from communicable diseases; advice, treatment and, when necessary, care of all students who are ill; early detection and correction, so far as possible, of beginning bodily disorders, such as the degenerative diseases, and correction, so far as possible, of defects in subnormals by advice regarding proper exercise and right living and, when advisable, by treatment. These objects are reached through the personal division of a university health service. The division of sanitation must concern itself with sanitary conditions both on and off the campus. Campus buildings, rooming houses and boarding houses must be inspected and regulated so far as possible. Finally, the health service should accentuate the required hygiene instruction by practical application to student life, and by additional educational methods, such as bulletins, posters and placards relative to health promotion and disease prevention, "patent medicines," etc.; and by use of the student daily paper and other publications in dissemination of health information. Through properly conducted work in physical education, through a required hygiene course, through health services and through medical schools and schools of public health, our colleges and universities can educate the citizens and train the health leaders of our country, thus assuring for the future the national health and vigor fundamental to national security, growth and permanence.

**Health Education: A Function of Municipal Health Departments**

DR. HAVEN EMERSON, New York: In order to carry out education, one must have something to say and some one to say it to, and a susceptibility or receptivity in the audience appropriate to the matter in hand. Certain groups may always be considered as educable in health subjects: children because of their age; mothers because of their children, and the sick and their immediate associates because of their temporary need. Beyond school age, the interest in health for most adults is a negative quality and cannot be relied on to provide an audience for the written or spoken word, except under pressure of fear, selfishness in self-protection, or self-interest in the betterment of employees.

In the United States, with rare exceptions, health education cannot be applied to the population of whole states without risk of inappropriateness, because of the striking dissimilarity in geologic, geographic, racial, educational, occupational and morbidity setting of the groups to be reached. Health is personal. Health education must be personal, as nearly as conditions permit. The nearer the government is to the lives of the people, the stronger will be public interest in the quality of its public servants. Without health education a community is ill served by its civil government. The municipal government is entitled to the strength which public interest will give to its health administration. The public is entitled to the kind of information which is as nearly personal and appropriate to the local unit, the household, the family, as can be attained. Health education is and must always be a function of municipal health departments.

**Health Education: A Function of State Departments of Health**

DR. W. S. RANKIN, Raleigh, N. C.: From the point of view of a state department, health education has to do largely with the adult population. The state health department, if it would be successful, must constantly strive to disseminate knowledge of health, and in such a manner that the public which it seeks to serve is sufficiently interested to make use of the knowledge imparted. The success of a health department may be definitely measured. Is the death rate reduced? Is there less sickness from preventable diseases? The answer to these two questions shows the value of the public health work done. If the answer is to be affirmative, the people must be reached with the message of health and disease prevention. Present efforts toward health education by state departments of health are heavily handicapped by the expense involved. Appropriations for health departments vary greatly. Some receive barely sufficient to maintain an office and carry on merely the minor duties of such a department. There is much lost motion and duplication of effort. Each state department is attempting to do what the others are going. The result is an unnecessary increase in personnel, a waste in time and money, and less effective methods. The solution is standardization and centralization of a large part of this work. Methods of health education may be divided into those applicable to all states and which therefore should be standardized and centralized, and those which deal with individual state problems.

The most important are the methods by which personal hygiene may be taught to the individual. There are two methods of educational work that must continue largely a product of each state and which must possess individuality, as each would lose in proportion as it became stereotyped in form or lacking local color. These are the monthly health bulletin and the press service, both of which are utilized by nearly every health department of the country. A health department must recognize health education as a primary function. The means of performing this function are many and varied. To get the best possible results, no single department can hope to utilize effectively all the means which are at hand. There must be cooperation, which will standardize materials and eliminate much of the present expense and lost motion.

**Health Education a Function of the Federal Government**

DR. CHARLES F. BOLDUAN, Washington, D. C.: There is a limitation to the activities of the federal authorities. We should devote a great deal of attention to health education among schoolchildren and adults, but should not concentrate on children alone. Childhood impressions are very lasting. A large part of our program should deal with the education of schoolchildren so far as the work of the federal departments is concerned, and this field will come largely under the United States Bureau of Education, a department of the interior. The Public Health Service should be a national clearing house for all matters relating to public health education, and should maintain a supply depot in which can be collected pamphlets, exhibits, etc. We might establish and operate a bureau of information on health administration which would have on hand information concerning administrative methods in all the various states and communities, so that the health officer would not have to send out questionnaires, but would have this material at hand. The Public Health Service in the past has done some work along that line. We published some years ago a digest of health laws enacted by state and local health authorities, and in that way we tried to meet a part of the need, but that has only been going on in a small way. Another activity we can undertake is the preparation of material for a standard monthly health bulletin. At present there is an enormous duplication of effort there. Another activity is the preparation and publication of a health column in our newspapers. For the last six months we have been doing this, and it has proved of great value. In connection with this health column we conduct a question and answer feature. The number of questions that come in is surprising. Still another activity would be the preparation of press bulletins of family interest. If you can send newspaper material in the form of stereomats they will use them. These stereomats are inexpensive. The Public Health Service should maintain a photographic department so that we can supply to state and local health officers pictures with which to illustrate various phases of

health work. We should also maintain a motion picture department, which is one of the great needs at the present time.

DISCUSSION

DR. JOHN M. DODSON, Chicago: As to the question of rejections in our selective service experience, referred to by Dr. Sundwall, I do not think the percentage of rejections when analyzed at all demonstrates that we are a degenerate nation physically. On the whole, it was a respectable showing. While it is true that many of the causes of rejection were due to lack of proper hygiene and sanitation, if we had only had universal military training, or universal physical culture which goes with military training, we should have escaped most of these fallacies.

As chairman of the Subcommittee on Health Problems in Education, cooperating with the National Education Association, I feel that our hope for the future largely lies in the education of the young. Personal hygiene is a matter of habit. Habits are formed early, and once formed they are not easily broken or changed. Therefore, our hope for the future and for permanent good lies in the education of the children and the inculcation in them of proper habits. For this reason I think one of the most worthy things that this Council on Health and Public Instruction has ever done was when, at the Los Angeles session in 1911, it approached the great body of public school teachers in this country (the National Education Association) and enlisted their keenest interest in health problems in the public schools.

PROF. W. B. OWEN, Chicago: We have reached a most opportune time for the introduction of health education in schools. The war has made us consider very carefully the content and material of our education. If the war had gone on longer, there would have been left in our educational progress some of the things that were coming in very rapidly, and each one different because of lack of cooperation and support, or the withdrawal of leadership of the national government. One of these is food. The food administration put into the schools a course on foods, and it is a great pity that it was stopped. They had the material in such form that it could be used, and the teachers were learning how to teach it, and the children were interested in it, and it went from the schools to the homes and from the homes back to the schools. The evidence is undisputable. Every one is coming to recognize that one of the fundamental new objectives laid down in our public education is health. Every one is trying to put thrift into the public schools at the present time. Buying economically and intelligently is a vital question, and if you combine the matter of selecting foods for health purposes, one can readily see how the whole thing would work together in a common program. In order to do this we must have the assistance of competent people to lay out a course and teach this course to teachers who are going to go into the schools.

DR. W. E. FORSYTHE, Ann Arbor, Mich.: The development of health service in colleges and universities is like other phases of public health work of recent origin. Some of the older universities, like the University of Virginia, have been taking care of their students' health for many years. The University of Virginia is probably the oldest in the development of a well-rounded service for the health of its students. The University of Michigan started this movement in 1913. We first began to care for sick students, and I regret to say that has been the main work in most places. Now attention in health matters is given to the well. There is difficulty sometimes in convincing the deans of various departments that this is important, so that we have to educate our educators in this work in our institutions. It is encouraging to have this program adopted for secondary schools, as it will stimulate our higher educational institutions to prepare teachers properly to meet this need. The great help we have had has been cooperation of the governor in the work of the Interdepartmental Social Hygiene Board.

DR. BURTON D. MEYERS, Bloomington, Ind.: We organized a department of hygiene in the Indiana University last year under the auspices or support of the United States government. We have had a required course for freshmen for about ten years, and it has been of tremendous value in developing better health conditions. We require those training for the teaching profession to take lectures in hygiene and work in physical training.

DR. JOHN DILL ROBERTSON, Chicago: We have in the public schools of Chicago little mothers clubs in which pupils of the sixth, seventh and eighth grades attend lectures on the rudiments of home nursing and public health work. A large part of the publicity of printed material is wasted. It never goes over, and a great deal of the lecture work never goes over. We have what we call the Chicago Public Health Association. Students of the sixth, seventh and eighth grades are required to attend seventeen meetings each month. In order to be sure that the students grasp the lectures, a digest of each lecture is handed to the pupils as they pass out the door, and they write an essay on it and present it to all the pupils in their rooms. We have established a Chicago Training School for Home and Public Health Nursing, and since August, 4,000 Chicago housewives have attended this course. It was done primarily for the purpose of preparing women to take care of sick people in times of an epidemic, such as influenza or pneumonia. About the time the epidemic of influenza started we had 2,160 who had attended the course of forty-eight lectures. We also established a public health education course, and 3,046 women have now some conception of what we are trying to do in health education work.

DR. HAVEN EMERSON, New York: I have been responsible since October for one of the things developed in the Interdepartmental Social Hygiene Board, a compulsory course in hygiene attended by 2,500 students of Cornell University. The students attend these lectures once a week. They have two medical examinations. This is required of all students in the university throughout the year or short term. The education that comes from medical examination and conferences or consultations is of more value than didactic teaching.

COL. JAMES C. GREGORY, Chicago: In reference to what was said about the draft examination, of approximately 4,000,000 men examined, about 60 per cent. had physical defects. Had these examinations been made by thoroughly trained men, more defects would have been found. Twenty-nine per cent. were rejected, and of that 29 per cent., 39 per cent. were rejected for mechanical defects, such as flatfoot, hammer toe, hallus valgus, deformed fingers and stiff joints. A large percentage of these difficulties could have been remedied had the men been examined and properly treated during their younger days. Ten per cent. of the rejections were due to undeveloped and metabolic conditions, narrow chests, under height, etc. Ten per cent. were due to sensory disturbances, such as defective hearing, defective vision and conditions of the throat. Three per cent. were rejected as a result of deficient or defective teeth. Ten per cent. of rejections were due to cardiac disturbances. A large number of these cases of cardiac disturbance were the result of defective teeth and enlarged tonsils. I do not see any better way than to start with the schools and with lectures from the teachers to the children, teaching them the elementary principles of hygiene, how to keep themselves healthy, and to grow up as physically fit as possible.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: One of the most instructive things that came out as the result of the examinations of men during the war is the distribution of the unfit. Pennsylvania, with its large foreign population, had a much larger percentage of unfit than Alabama or Georgia, with a large negro population; in other words, the negro is more fit physically than the average man in Pennsylvania.

DR. W. F. DRAPER, Washington, D. C.: The Public Health Service, in cooperation with the State Board of Health of Virginia, made an arrangement with counties in which no previous health work has been done, whereby the county pays $1,000 and receives $1,000 from the state for a full-time sanitary administrator, who takes up the problems relating to rural sanitation, proper disposal of waste, proper protection of water supply, etc. We are trying to secure three results, namely, to have the towns sanitated; to get sanitary toilets, and a pure water supply in every county, and to reach as many homes as possible. The results of this work have been very gratifying.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Annals of Medical History, New York

1919, **2**, No. 2

House Surgeon's Memories of Joseph Lister. St. C. Thomson, London.—p. 93.
Oxford Physic Garden. D. Power, London.—p. 109.
Modern Commentaries on Hippocrates. J. Wright, Pleasantville, N. Y.—p. 126.
Rise and Early History of Clinical Teaching. D. Riesman, Philadelphia.—p. 136.
Napoleon's Camp at Boulogne. Reginald Fitz, Boston.—p. 148.
William Osler; The Man. H. Cushing, Boston.—p. 157.
Sir William Osler, the Tribute. H. A. Kelly, Baltimore.—p. 168.
Osler's Influence on Medical Libraries in the United States. John Ruhräh, Baltimore.—p. 170.
Sir William Osler's Contribution to Medical Literature. F. H. Garrison, Washington.—p. 184.
Presentation to Sir William Osler.—p. 188.

### Archives of Dermatology and Syphilology, Chicago

March, 1920, **38**, No. 3

*Causes of Reactions Following Intravenous Injections of Arsphenamin and Neoarsphenamin. J. F. Schamberg, J. A. Kolmer, G. W. Raiziss and C. Weiss, Philadelphia.—p. 235.
*Neurotic Excoriations. G. M. MacKee, New York.—p. 256.
*Neurotic Excoriations; Report of Cases. W. A. Pusey and F. E. Senear, Chicago.—p 270.
*Veneroid Ulcer. G. M. Olson, Minneapolis.—p. 279.
*Two Cases of Idiopathic Hemorrhagic Sarcoma (Kaposi); The First Complicated with Lymphatic Leukemia. H. N. Cole and E. S. Crump, Cleveland.—p. 283.
Osseous Formation in Lupus Erythematosus. W. B. Trimble, New York.—p. 296.
*Camphor Oil Tumors. W. H. Mook and W. G. Wander, St. Louis.—p. 304.

**Causes of Reactions Following Intravenous Injections of Arsphenamin and Neo-Arsphenamin.**—The ingenious theory advanced by Danysz that intravascular precipitation of the organic arsenicals is the cause of the reactions (particulary the nitroid reactions) after intravenous injection, the authors claim, is true in part only. It explains the well known precipitation of solutions of acid arsphenamin and probably also concentrated solutions of monosodium arsphenamin (i. e., arsphenamin neutralized to the point of clearing). There is no adequate evidence, however, that precipitation occurs after the use of disodium arsphenamin (hyperalkaline solutions), and there is no evidence at all that neo-arsphenamin is ever precipitated in the blood. Experiments carried out by Schamberg et al. indicate that the phosphates of calcium, magnesium, sodium and potassium in the concentrations in which they normally occur in the blood, do not precipitate alkaline solutions of arsphenamin and neo-arsphenamin in vitro, either when tested alone or in the presence of the other organic or inorganic constituents of the blood. They believe that if arsphenamin is properly neutralized, that is, if the disodium and not the monosodium arsphenamin is injected, precipitation in vitro can scarcely take place. The fact that arsphenamin is hemolytic in practically all of the concentrations in which it is employed, and that neo-arsphenamin is not hemolytic, except in very dilute solutions (0.9 gm. in 180 c.c. of water) or in extremely concentrated solutions (0.9 gm. from 2 to 3 c.c.) sheds a degree of illumination on the relative manner in which these drugs are clinically tolerated. Another fact of importance is the hydrogen-ion concentration of these two compounds. The hydrogen-ion concentration of neo-arsphenamin is 7.0 to 7.4, which is approximately that of the blood. That of acid arsphenamin is 4.7, while the alkaline solutions are beyond 9. The injections of acid solutions of arsphenamin are prone to produce death, or if less concentrated, may lead to the development of a bronchopneumonia as a result of intravascular precipitation of the drug. Concentrated monosodium arsphenamin solutions may, under certain conditions, likewise cause death, or in the event of recovery cause an embolic bronchopneumonia. The authors have no knowledge that pneumonic symptoms have ever developed after the use of disodium arsphenamin, nor after the use of neo-arsphenamin. Nitritoid reactions may, at times, follow the injection of a clear solution of neo-arsphenamin. The authors belive the cause to be traces of an unidentified impurity which for purposes of convenience and easy reference they designate substance X.

**Neurotic Excoriations.**—The term neurotic excorations is limited to traumatic lesions produced by a person without intent to deceive. At times, the excoriation may be produced by the habit of picking at every slight elevation of the skin. This picking or digging may be quite unintentional and, in mild cases, it is limited to an unconscious habit of passing the hand over the face (and the scalp, if bald) while deeply absorbed in study, locating a little follicular plug and digging with the finger nail until an excoriation is effected. In the same way, the reparative crust is repeatedly removed, healing is retarded and the lesion may persist for weeks or months, becoming, perhaps, indurated or infected, and finally, when left alone, disappearing spontaneously, often with scar formation. The question of diagnosis—differential diagnosis—is important. The illustrative cases reported by MacKee show that neurotic excoriations may markedly simulate syphilis, tuberculosis, radiodermatitis, dermatitis herpetiformis, acne varioliformis, and other dermatoses. Care also must be taken to differentiate clearly between neurotic excoriations and malingering, and to exclude excoriations produced in attempts to relieve severe itching by individuals who are not neurotic.

The cases reported by Pusey and Senear, are essentially of the same character as the cases of neurotic excoriations reported by Fox and Wilson.

**Veneroid Ulcer.**—Veneroid ulcer or the ulçer of Welander is a disease characterized by the appearance of ulcers about the vulvae of girls or women who have not been exposed to venereal disease. The general appearance of veneroid ulcer is strikingly similar to that of chancroid and chancre. The disease is self-limited, healing under indifferent treatment in about one month. The scars left after healing are typical. They are superficial, round or oval, with slightly raised edges. Olson reports one case.

**Idiopathic Hemorrhagic Sarcoma.**—Two cases of the idiopathic hemorrhagic sarcoma of Kaposi are reported by Cole and Crump, occurring in a Russian Hebrew, aged 66, and in an Italian, aged 56. In the first case, the disease was of five or six years' duration; in the other case, of twenty years' duration. In Case 1, the patient developed a lymphatic leukemia in the course of his disease, but throughout the disease his cutaneous lesions showed the histologic characteristics of hemorrhagic sarcoma of Kaposi; i. e., the formation of new blood vessels in the corium, perivascular infiltration with small, round cells, plasma cells and spindle cells, and with a marked infiltration of the tissue with blood pigment, consisting of hemosiderin. Experimentally, the authors were unable to transmit the disease to cats, white rats, to guinea-pigs and to rabbits.

**Camphor Oil Tumors.**—The six cases reported by Mock and Wander seem to indicate that it is dangerous to use mineral oil as a vehicle for any remedy to be injected into subcutaneous tissue. This fact has been well established in regard to paraffin injections, and the tumors resulting from the injection of camphor oil incorported in a mineral oil strengthens the conclusion.

### Annals of Surgery, Philadelphia

February, 1920, **71**, No 2

*Oxycephaly: Report of Two Cases. S. H. Watts, Charlottesville.—p. 113.
*Surgical Treatment of Cysts of Thyroglossal Tract. W. E. Sistrunk, Rochester, Minn.—p. 121.
*Stone in Kidney. C. H. Mayo, Rochester, Minn—p. 123.
*Results of Operations for Removal of Stones from Ureter. E. S. Judd, Rochester, Minn.—p. 128.
*Tuberculosis of Appendix. M. Warwick, Minneapolis, Minn.—p. 139.
*No Surgical Appendicitis without Organic Stricture. M. Pitzman, St. Louis.—p. 149.
Advantages of Mikulicz Two-Stage Operation of Partial Colectomy. C. N. Dowd, New York.—p. 155.
Anatomic Considerations in Rectal Prolapse of Infants. T. W. Todd, Cleveland.—p. 163.
*Sarcoma of Prostate. F. C. Herrick, Cleveland.—p. 168.
*Abscess of Prostate. A. Randall, Philadelphia.—p. 172.
Cervical Erosions. P. J. Reel, Columbus.—p. 178.
Treatment of Nonunion in Compound Fractures. DeF. P. Willard, Philadelphia.—p. 182.

Dislocation of Tarsal Scaphoid: Double Fracture of Ischiatic Tuberosities. W. D. Haines, Cincinnati.—p. 187.
Suture of War Wounds. D. Hinton, Philadelphia.—p. 191.

**Oxycephaly.**—This paper was abstracted in THE JOURNAL, Jan. 17, 1920, p. 201.

**Surgical Treatment of Cysts of Thyroglossal Tract.**—In 86,000 consecutive patients examined in the Mayo Clinic, only thirty-one cases of thyroglossal cysts were found. Eighteen of these were in males and thirteen in females. The cysts appeared at all ages from birth to 53 years, the majority being noted in patients between the ages of 20 and 25 years. In twenty-five of these patients the cyst was found in the midline of the neck, near the hyoid bone.

**Stone in Kidney.**—This paper was abstracted in THE JOURNAL, Jan. 17, 1920, p. 200.

**Results of Operations for Removal of Stones from Ureter.**—This paper was abstracted in THE JOURNAL, Jan. 17, 1920, p. 200.

**Tuberculosis of Appendix.**—Of 210 appendixes, only two, or approximately 1 per cent., were found tuberculous. Warwick cites a case in which the tuberculous appendix was the first definite evidence of the probable existence of other tuberculous lesions. The necropsy showed clearly that the primary lesion had resided for some time in the apexes of the lungs. An acute exacerbation of these lesions followed ulceration of the intestines and invasion of the appendix.

**No Surgical Appendicitis Without Organic Stricture.**—Pitzman claims that attacks of acute suppurative appendicitis are brought on by complete closure of a preformed stricture. The inflammation, eventually gangrene, is due to the action of the bacteria normally present in the locked-up feces. The true chronic appendix also has a stricture, which, however, is patent during intervals between attacks.

**Sarcoma of Prostate.**—Herrick analyzes sixty-two cases recorded in the literature.

**Abscess of Prostate.**—Sixteen cases of abscess of the prostate are cited by Randall in support of his belief that any infection of a pus forming character is, ipso facto, of gonorrheal origin. Eight cases were clinically diagnosed as prostatic abscess, secondary to an active gonorrhea arthritis. In the second group of eight cases, gonorrhea played no antecedent rôle. In two cases *B. coli* was the infecting organism, and in a similar number *Staphylococcus pyogenes-aureus.*

## Boston Medical and Surgical Journal

March 18, 1920, **182,** No. 12

Ether Day Address. Traditions, Standards and Prospects of the Massachusetts General Hospital. R. C. Cabot, Boston.—p. 287.
Specific Treatment of Hay-Fever. F. M. Rackemann, Boston.—p. 295.
*Case of Tumor of Sacrum. J. E. Goldthwait, Boston.—p. 301.

March 25, 1920, **182,** No. 13

Development of Modern Infant Feeding: Influence on Present Teachings. L. W. Hill, Boston.—p. 311.
Anesthesia in Obstetrics. P. Appleton, Providence, R. I.—p. 321.

**Tumor of Sacrum.**—In the case cited by Goldthwait, a hard mass covered the whole anterior part of the sacrum and projected from an inch to an inch and one half into the pelvis. The swelling over the posterior part of the sacrum was not hard and did not obscure the general bony landmarks. The roentgen ray showed up the destruction of a large part of the central portion of the sacrum. In the light of the history of an evidently long continued condition with extremely good general function, it being possible for the patient to walk about with apparent ease, it was considered inadvisable to operate, and a support for the pelvis was planned to relieve the joints of the pelvis from the strain, and planned also to correct the unnatural forward inclination of the pelvis. This support was applied. The patient has been able all of the time to carry on a drug store business. She tired more easily than would be normal, but with two or three short periods of rest in the course of a day, together with a belt to give reasonable support about the pelvis and low back, it has been possible for her to keep about with apparently no increase of the difficulty and, on the whole, increasing general strength.

## Bulletin of Johns Hopkins University, Baltimore

February, 1920, **31,** No. 348

*Experimental Pneumectomy. G. J. Heuer and G. R. Dunn, Baltimore.—p. 31.
*Effect of Arteriovenous Fistula on Heart and Blood-Vessels. An Experimental and Clinical Study. M. R. Reid, Baltimore.—p. 43.
Biological Classification of Influenza Bacilli. T. M. Rivers, Baltimore.—p. 50.

**Experimental Pneumectomy.**—In twenty-three dogs on which total pneumectomy was practiced by Heuer and Dunn, there were thirteen recoveries and ten deaths. The fatalities occurred in from four days to two months after operation. Six of the deaths were due to an epidemic of distemper which swept through the kennels. The necropsy examinations in this group did not show a single instance of infection of the parietal wound or pleura or leakage from the bronchial stump. One animal died of a simple pneumonia unassociated with other evidences of distemper. At the necropsy there was no infection of the parietal wound or pleura or leakage from the bronchial stump. One animal died apparently from starvation, two months after operation. At the necropsy there was a remarkable degree of emaciation, but no other assignable cause for death. There was no infection of the parietal wound or pleura or any leakage from the bronchial stump. In one of these the failure to secure an adequate closure of the bronchial stump was intentional. In the other a necrosis of the bronchial wall followed the application of an intentionally flattened (not rolled) metal band.

**Effect of Arteriovenous Fistula on Heart and Blood Vessels.**—A report of experimental work on dogs is made by Reid, and fourteen clinical cases of arteriovenous fistula are reported in abstract. A study of the clinical cases reveals that the artery was observed to be dilated proximal to the fistula in five instances. In seven of the cases the histories do not comment on the size of the artery. In one case in which the fistula had been present for only three months, the artery was not dilated. In patients in whose history no mention is made of the size of the artery, the arteriovenous fistula was intracranial in three, in the hand in two, between the occipital vessels in one, and in femoral region in one. All the femoral arteriovenous fistulas, except two of three and four months' duration resulted in a proximal dilatation of the artery. This dilatation may extend as far as the heart. Marked cardiac disturbances may result from an acquired arteriovenous fistula of long standing. They are hypertrophy and dilatation with eventual cardiac decompensation. The wall of the vein involved in an arteriovenous fistula becomes hypertrophied. Although the vein on the proximal side of the fistula does not increase markedly in size, its wall shows a greater increase of elastic tissue than the wall of the vein distal to the fistula. The venous blood pressure is increased in the part of the body distal to an arteriovenous fistula. When the fistula is cured the pressure returns to normal.

## Colorado Medicine, Denver

March, 1920, **17,** No. 3

Control of Cancer. P. Hillkowitz, Denver.—p. 56.
Case of Reconstructive Surgery of Face. T. G. Maghee, Lander, Wyo.—p. 60.
Vaccine Therapy in Pertussis. G. M. Blickensderfer, Denver.—p. 62.
Tuberculosis in Army. G. H. Chattermole, Boulder.—p. 66.

## Illinois Medical Journal, Oak Park, Ill.

March, 1920, **37,** No. 3

Etiology of and Prophylactic Inoculation in Influenza. E. C. Rosenow, Rochester, Minn.—p. 153.
Early Symptoms of Cancer. J. C. Bloodgood, Baltimore.—p. 155.
Lessons from One Hundred Gallbladder Operations. W. F. Grinstead, Cairo, Ill.—p. 156.
Submucous Operations. O. Tydings, Chicago.—p. 159.
Acute Mastoiditis. R. T. Tivnen, Chicago.—p. 162.
Résumé of Year's Work with Radium. C. W. Hanford, Chicago.—p. 168.
Treatment of Infected Wounds with Reference to Carrel-Dakin Method. W. Fuller, Chicago.—p. 173.
Certificates of Birth and Death. H. B. Hemenway, Springfield.—p. 181.
Need of More Laboratories. M. Dupray, Springfield.—p. 185.
*Trichomonas Vaginalis Vaginitis. J. B. DeLee, Chicago.—p. 186.
Eye Involvements Following Focal Infection. E. R. Crossley, Chicago.—p. 187.

Recent Developments in Peripheral Nerve Surgery. H. A. Beam, Moline.—p. 189.
Artificial Bilateral Pneumothorax. W. R. Abbott, Springfield.—p. 192.
Static Back Trouble. E. L. Cooley, St. Louis.—p. 195.
Suggestions About Community Mental Health Departments Under State Management. S. D. Wilgus, Rockford.—p. 199.
Clinical Problems Relating to Chronic Suppurative Diseases of Middle Ear. G. E. Shambaugh, Chicago.—p. 203.

**Trichomonas Vaginalis Vaginitis.**—De Lee states that in cases of this type the patient complains of obstinate vaginal discharge, pruritus, sleeplessness, burning, general weakness and of being "run down." The vulva is reddened, the vagina also, and often rough like a nutmeg grater; sometimes there are minute hemorrhages in the vaginal epithelium. The cervix is sometimes affected. The discharge is profuse, excessive, mucopurulent, thin, bubbly, acrid and with a disagreeable odor. Its irritating character is shown by the erosion of the skin, and especially in fat women there is an obstinate foul smelling intertrigo. Sometimes there are pointed condylomas. Diagnosis is easy. The clinical appearance of the vagina will suffice, but examination of the fresh discharge under the microscope will confirm it. As for the treatment: On the morning of the first day the vagina and vulva are scrubbed vigorously with tincture of green soap and water, using a rough cloth and going most thoroughly into every fold and crevice. The soap is then rinsed out with sterile distilled water. The process is repeated three times, then a 1:1,500 mercuric chlorid douche is given also with friction, every fold and crevice being washed. This again is washed out with sterile distilled water. The patient rests in bed. Next morning the vagina is again washed out with green soap and sterile water. Then it is packed with cotton soaked with glycerin (4 ounces) and sodium bicarbonate (1 ounce). The folds and crevices of the vagina are filled with the cotton and the vulva is smeared with the mixture. Next morning the tampon is removed and a sterile water douche is given. The following morning the secretion is examined under the microscope for trichomonades. Usually they are gone.

## Journal of Biological Chemistry, Baltimore

March, 1920, **41**, No. 3

*Nutritive Value of Proteins of Barley, Oat, Rye and Wheat Kernels. T. B. Osborne and L. B. Mendel, New Haven.—p. 275.
Effect of Chlorin Substitution Products of Methane Acetaldehyde, and of Sodium Acetate on Catalase Production. W. E. Burge and E. L. Burge, Urbana.—p. 307.
Improved Volumetric Pump for Continuous Intravenous Injections. R. T. Woodyatt, Chicago.—p. 315.
Biochemistry of Acetone and Butyl Alcohol Fermentation of Starch by Bacillus Granulobacter Pectinovorum. H. B. Speakman, Toronto. —p. 319.
*Determination of Chlorids in Whole Blood. J. H. Austin and D. D. Van Slyke, New York.—p. 345.
*Experiments on Utilization of Calcium of Carrots by Man. M. S. Rose et al, New York.—p. 349.
*Effects of Feeding with Calcium Salts on Calcium Content of Blood. W. Denis and A. S. Minot, Boston.—p. 363.
*Simplified and Improved Method for Determination of Sugar in Blood. O. Folin and H. Wu, Boston.—p. 367.
Distribution of Basic Nitrogen in Phaseolin. A. J. Finks and C. O. Johns, Washington, D. C.—p. 375.
Studies in Nutrition. II. Rôle of Cystine in Nutrition as Exemplified by Nutrition Experiments with Proteins of Navy Bean, Phaseolus Vulgaris. C. O. Johns and A. J. Finks, Washington, D. C.—p. 379.
*Studies in Nutrition. III. Nutritive Value of Commercial Corn Gluten Meal. C. O. Johns, A. J. Finks and M. S. Paul, Washington, D. C.—p. 391.
*Equilibrium Between Oxygen and Carbonic Acid in Blood. L. J. Henderson, Cambridge, Mass.—p. 401.
Fermentation of Fructose by Lactobacillus Pentoaceticus, n. sp. W. H. Peterson, and E. B. Fred, Madison, Wis.—p. 431.
Nutritive Factors in Plant Tissues. III. Distribution of Water-Soluble Vitamin. T. B. Osborne and L. B. Mendel, New Haven, Conn. —p. 451.

**Nutritive Value of Proteins of Barley, Oat, Rye and Wheat Kernels.**—The growth of rats on diets essentially comparable, except in respect to content and source of the cereal proteins contained therein, show the possibilities of nutrition when any one of the four commonly used cereal grains furnished the protein.

**Determination of Chlorids in Whole Blood.**—A modified technic for whole or laked blood is described by Austin and Van Slyke in which the precipitation and removal of the protein precede the addition of the silver.

**Utilization of Calcium of Carrots by Man.**—Two series of experiments to determine the utilization of the calcium of carrots by the human body were carried out by Rose on four healthy young women. The calcium intake was in every case close to the estimated minimum for equilibrium. In all cases but one there was a positive calcium balance on the carrot diet, and in this case the loss was small. When approximately 55 per cent. of the calcium was derived from carrots, one subject had practically the same retention as on a diet in which 70 per cent. of the calcium was derived from milk. It seems possible, therefore, to meet the requirement of the adult human organism for calcium largely, if not wholly, from carrots.

**Effects of Feeding Calcium Salts.**—The result of a study of the effect of the administration of calcium salts by mouth to men, cats and rabbits, made by Denis and Minot, indicates that in most cases it is impossible to increase the concentration of calcium in the plasma by ingestion of calcium salts, but that in cats and rabbits, in which the initial concentration is low, it is sometimes possible to greatly increase the amount of calcium in plasma by feeding salts of this element.

**Determination of Magnesium in Blood.**—The procedure described by Denis consists of the removal of organic material contained in the filtrate from the calcium determination, the precipitation of magnesium as magnesium ammonium phosphate, and the nephelometric determination of the phosphate in this compound by the reagent of Pouget and Chouchak.

**Simplified and Improved Method for Determination of Sugar in Blood.**—Folin and Denis have replaced their regular phenol reagent by a reagent which reacts with cuprous copper, in acid solution, yet gives no color with phenols.

**Nutritive Value of Commercial Corn Gluten Meal.**—The authors found that commercial corn gluten meal, supplemented by dried brewers' yeast, whole ground yellow corn, or coconut press cake, furnishes the necessary protein for normal growth. Eighteen per cent. of whole, ground, yellow corn meal furnishes sufficient water-soluble vitamin for normal growth.

**Equilibrium Between Oxygen and Carbonic Acid in Blood.**—Henderson endeavors to explain the interaction between oxygen and carbonic acid in blood by means of the theory of acid base equilibrium.

## Journal of Experimental Medicine, Baltimore

March 1, 1920, **31**, No. 3

*Pneumococcus Cultures in Whole Fresh Blood. Retardative Effect of Blood of Immune Animals and Mechanism of Phenomenon. C. G. Bull and L. Bartual, Baltimore.—p. 233.
*Production of Specific Antiserums for Infections of Unknown Cause. P. Rous, G. W. Wilson and J. Oliver, Baltimore.—p. 253.
*Deterioration of Crystalline Strophanthin in Aqueous Solution. R. L. Levy and G. E. Cullen, Baltimore.—p. 267.
Giant Centrospheres in Degenerating Mesenchyme Cells of Tissue Cultures. W. H. Lewis, Baltimore.—p. 275.
Formation of Vacuoles Due to Bacillus Typhosus in Cells of Tissue Cultures of Intestine of Chick Embryo. M. R. Lewis, Baltimore. —p. 293.
*Appearance of Isoagglutinins in Infants and Children. W. M. Happ, Baltimore.—p. 313.
*Effect of Feeding Pineal Body on Development of Albino Rat. W. R. Sisson and J. M. T. Finney, Jr., Baltimore.—p. 335.

**Pneumococcidal Value of Whole Fresh Blood.**—It is maintained by Bull and Bartual that the whole uncoagulated blood of immune animals is not as highly pneumococcidal in vitro, as has been claimed. Cultures of pneumococci in the fresh whole blood of immune animals, as compared with cultures in the blood of susceptible animals, show a greatly prolonged latent period, and, in a general way, the relative lengths of the latent periods of the cultures correspond to the relative resistances of the animals to infection by these organisms. The blood of animals artificially immunized, both actively and passively, retards the growth of pneumococci in the same manner as the blood of naturally immune animals. The retardation of multiplication depends on two factors, opsonization of the pneumococci by the immune serum, and phagocytosis of the organisms by the polynuclear cells; growth readily occurs when either agent is absent.

Pneumococci multiply in defibrinated immune blood because few phagocytes are present after defibrination. Pneumococci grow in the most potent immune blood after mechanical destruction of the white cells. It was not determined that immune blood does not kill a certain number of the pneumocci with which it is inoculated, but the tentative conclusion has been arrived at that no killing occurs since none of the bloods tested became sterile during the course of the experiments.

**Production of Specific Antiserums for Infections of Unknown Cause.**—Rous and his associates state that there is present in serum of high precipitin titer, produced by the repeated injection of rabbits with a blood-free serum of guinea-pigs or dogs, a principle, highly toxic for animals of the species furnishing the antigen. Intravenously, the serum causes severe shock, and even sudden death, while locally, it gives rise to acute inflammatory changes and profuse capillary hemorrhages. The complete removal of hemolysins and hemagglutinins from the serum by exposing it repeatedly to washed red cells lessens its toxicity to only a slight degree and one obviously dependent on these elements; while the further removal of precipitin by specific precipitation in vitro has no detoxifying effect whatever. Whether the toxic principle is a hitherto unrecognized antibody or perhaps a toxic product of the interaction of precipitin and precipitinogen—one formed as readily in the test tube as in the animal body—remains to be determined. The symptoms of guinea-pigs and dogs given an intravenous injection of treated or untreated serum markedly resemble those of anaphylaxis, but attempts at desensitization were unsuccessful. The local lesion in guinea-pigs is more severe than that of the Arthus phenomenon.

**Deterioration of Crystalline Strophanthin in Aqueous Solution.**—Experiments were undertaken by Levy and Cullen to ascertain the cause of the deterioration of aqueous solutions of strophanthin in relation to the altered hydrogen ion concentration, and to devise a method for preparing a stable solution for therapeutic purposes. Many of the glass containers commonly used in the laboratory, and most of the glass ampoules employed in marketing sterile solutions for hypodermic or intravenous medication, were found to yield sufficient alkali on autoclaving, to change the reaction of distilled water from $p_H$ 6.0 to $p_H$ 9.0. This increase in alkalinity is sufficient to render biologically inert and partially to decompose aqueous solutions of crystalline strophanthin in the concentration ordinarily employed in the clinic. It is suggested that for clinical use, crystalline strophanthin be dissolved in 0.02 M standard phosphate solution at $p_H$ 7.0, and marketed in hard glass ampoules, thereby insuring stability of reaction with preservation of biologic activity.

**Iso-Agglutinins in Infants and Children.**—The iso-agglutination of 131 infants and children from birth to 10½ years was examined by Happ by testing their serum and washed corpuscles microscopically against the serum and washed corpuscles of each of four adult groups. The grouping as present in adults is rarely present in blood from the umbilical cord. At birth and during the first month of life, isoagglutination is rarely present, but the percentage of infants in whom the iso-agglutinin group is established increases with age, so that after 1 year the group is usually established, and after 2 years it is always present as in adults. The grouping is established in the corpuscles before it is established in the serum; i. e., the corpuscles acquire agglutinophilic receptors before the serum acquires agglutinin. Therefore, Group I is the first group to be formed and Group IV is the last. The early grouping in the corpuscles before the group is established in the serum is liable to change by the acquisition of new receptors. When the grouping has been established in both serum and corpuscles it does not change. Iso-agglutinins are present in mother's milk and the grouping is identical with that in the mother's blood. These agglutinins are probably not transmitted to the nursing infant through the milk. On account of the difference between the agglutination reactions in the blood of mother and child, it is not safe to transfuse an infant from its mother without making the preliminary tests.

**Effect of Feeding Pineal Body on Development.**—Feeding the desiccated pineal body of young calves to young albino rats failed to produce any effect on the early development of these animals.

## Journal of Orthopedic Surgery, Lincoln, Neb.

March, 1920, **2**, No. 3

Operative Correction of Paralytic Valgus. S. Kleinberg, New York.—p. 127.
Application of Curvature Therapy in the Wald. H. C. Marble, Boston.—p. 136.

## Kansas Medical Society Journal, Topeka

March, 1920, **20**, No. 3

Rôle of Laboratory in Diagnosis of Venereal Disease. W. A. Baker, Rosedale.—p. 57.
Treatment of Purulent Appendicitis. T. A. Jones, Hutchinson.—p. 61.
Need of Type of Graduate Study in Schools of Medicine. C. F. Nelson, Kansas.—p. 64.

## Laryngoscope, St. Louis

February, 1920, **30**, No. 2

Cellulitis of and Abscess in Parapharyngeal Tissues Causing Laryngeal Edema. C. G. Coakley, New York.—p. 65.
*Experimental Observations on Treatment of Brain Abscess Following Middle Ear and Mastoid Infections. J. McCoy, New York.—p. 75.
*Case of Temporosphenoidal Abscess. J. Leshure, New York.—p. 80.
Chances of Cure of Mastoiditis by Tentative Tonsillo-Adenectomy. O. Glogau, New York.—p. 83.
Perforating Gunshot Wound of Face with Extensive Destruction of Superior Maxillae. J. N. Roy, Montreal.—p. 100.
A Clamp Tonsillectome. E. Hyslin, Tacoma.—p. 109.

**Treatment of Brain Abscess Following Middle Ear and Mastoid Infections.**—A number of different procedures for the purpose of forming a safety zone through which to operate have been tried out by McKay but he has not yet reached definite conclusions.

**Case of Temporosphenoidal Abscess.**—The case cited by Leshure is of interest chiefly from the standpoint of diagnosis. None of the classical symptoms of brain abscess were present, although a rather persistent headache should have aroused suspicion of deep-seated trouble. Incision of the right temporosphenoidal lobe evacuated about 30 c.c. of very foul thick greenish pus mixed with cerebrospinal fluid. As the patient's heart had not ceased to beat, the incision was enlarged and digital exploration revealed the fact that the abscess was encapsulated but evidently was not of very recent origin. No stalk or direct communication with the middle-ear cavity could be made out.

## Medical Record, New York

March 20, 1920, **97**, No. 12

Measures of Intelligence Diagnostically Remeasured. J. V. Haberman, New York.—p. 467.
Relation of Arterial Hypertension to Nephropathies. M. A. Mortensen, Battle Creek, Mich.—p. 475.
*Clinical Study of Ectopic Pregnancy. H. E. Stein, New York—p. 478.
Cause, Prevention and Cure of Influenza and Allied Diseases. A. Kahn, New York.—p. 481.
The Prostitute in Jail: Opportunity for Public Health Work That Gives Results. H. Goodman, New York.—p. 483.
Cancer Death Rate in New York City During 1919. L. D. Bulkley and L. B. Cady, New York.—p. 486.
Serum Sickness Treated with Proteal. F. Tweddell, Great Neck, N. Y.—p. 487.

**Clinical Study of Ectopic Pregnancy.**—Among 580 cases of gynecologic operations analyzed by Stein, there were forty-three cases of ectopic pregnancy, or 7 per cent. Only six of the forty-three women had never been pregnant. Thirteen were primiparas. Only six patients gave a history of previous miscarriage. Three patients had been operated on for a former extra-uterine pregnancy. A long period of sterility is usually regarded as an antecedent to an ectopic pregnancy. This fact is not borne out by Stein's study. One patient had been sterile thirteen years, and one eleven years, but the great majority had become impregnated within the last three years. In these forty-three cases, a double salpingectomy was deemed necessary only nine times. Thus the other tube showed evidence of inflammatory involvement in about one fourth of the cases. Of those tubes that were sectioned throughout, only about one third showed the presence of round cell infiltration and connective tissue replacement, due to chronic inflammatory

changes. It is Stein's opinion that the normal meeting place of the ovum and spermatozoon is in the uterus. Various factors may account for the meeting taking place in the tube: (1) late ovulation; (2) hypermotility of the spermatozoon; (3) lodgment of the ovum in a recess or congenital ampulla of the tube; (4) mild salpingitis.

## Minnesota Medicine, Minneapolis

March, 1920, **3**, No. 3

Early Diagnosis of Malignant Thyroid; Especially Carcinoma. H. A. H. Bouman, Minneapolis.—p. 105.
Recent Advance in Diagnosis of Surgical Lesions of Kidney. W. F. Braasch, Rochester, Minn.—p. 112.
Lethargic Encephalitis; Report of Twelve Cases. E. M. Hammes, St. Paul.—p. 118.
Treatment of Empyema by Closed Method. F. M. Manson, Worthington.—p. 124.
Trephine Operation for Pyothorax: A. C. Strachauer, Minneapolis. —p. 127.
Correlation of Laboratory with Clinical Methods in Study of Tuberculosis. F. W. Wittich, Minneapolis.—p. 133.
Epidemic Influenza: At University Hospital, Minneapoils. E. T. Herrmann, St. Paul..

## Missouri State Medical Ass'n Journal, St. Louis

March, 1920, **17**, No. 3

Adenomyomata with Special Reference to Those Occurring in the Broad Ligament. O. H. Schwarz, St. Louis.—p. 91.
*Treatment of Syphilis. W. K. Trimble, Kansas City, Mo.—p. 94.
Critical Analysis of Present Day Attitude of Medical School Curriculums Toward Science of Therapeutics. W. H. Thaler, St. Louis. —p. 97.
Fractures of Patella and How Shall We Treat Them. W. R. Hewitt, St. Louis.—p. 100.
Conservative Surgery of Pelvic Organs. B. A. Poorman, Kansas City, Mo.—p. 103.
*Is Psoriasis Incorrigible? W. H. Hammond, St. Louis.—p. 105.
Relation of Anaphylaxis to Asthma and Eczema. H. C. Berger, Kansas City.—p. 109.
Modified Agnew's Operation for Relief of Webfinger Produced by Rope Burns. E. D. Twyman, Kansas City.—p. 112.

**Treatment of Syphilis.**—After reviewing about 4,000 Wassermann tests, Trimble finds himself forced to the conclusion that primary syphilis is never cured. This belief is based on the observation of patients having had their infection a few years ago and having had modern intensive treatment. What may be the proper treatment for early syphilis Trimble finds it difficult to say. He is inclined to the view that one primary fault lies in the too universal acceptance of the specificity of certain drugs. Long periods of latency may, he thinks, be rightfully attributed to an acquired immunity and not wholly to the treatment received. The most unfortunate state in which a patient could be found is where he harbors treponemata and at the same time has nothing but arsphenamin or mercury to protect him. Trimble concludes his paper with the statement that syphilis cannot be cured, and that the best treatment is that which will give the patient the longest lease on life and usefulness to himself and society.

**Is Psoriasis Incorrigible?**—Among the internal medicaments those of first importance in Hammond's opinion seem to be: arsenic, iron, nux vomica, the potassium salts, vegetable tonics, iodids, mercury, suprarenal, thyroid and pituitary extracts and vaccines. As to diet, he aims to balance the diet by increasing the amount ingested of those foods which are the least harmful to the patient. Of external measures, Hammond favors the rays of the Alpine sun lamp, judiciously applied, and mild application of the roentgen ray can be used on the nonhairy surfaces, but, he says, as a rule, resorcin, in a lotion to the scalp, and a mild ointment of ammoniated mercury elsewhere, are all that will be required.

## New Orleans Medical and Surgical Journal

March, 1920, **72**, No. 9

*Case of Mixed Hypothyroidism and Hypopituitarism. A. Eustis and L. R. DeBuys, New Orleans.—p. 526.
Case of Cirrhosis of Liver; Talma Operation; Entire Relief of Symptoms. E. L. King, New Orleans.—p. 529.
Sewing Machine Motor in Use as a Motor Saw. J. T. Nix, Jr., New Orleans.—p. 531.
Lethargic Encephalitis. J. M. Perret, New Orleans.—p. 534.
*Sponge-Forceps Methods of Treating Incomplete Abortion. E. L. King, New Orleans.—p. 540.
Dermoid Cyst of Ovary, in Patient 14 Years of Age. W. D. Phillips, New Orleans.—p. 544.
Collection and Preparation of Specimens for Laboratory Examinations. E. Bass, New Orleans.—p. 545.
Epithelioma, its Various Types and Treatment by Radiotherapeusis. H. F. Wilkins, Birmingham.—p. 549.

**Case of Mixed Hypothyroidism and Hypopituitarism.**—Eustis and DeBuys report the case of a girl, 15 years of age, who, two years ago, presented symptoms of hypothyroidism, while during the past two years she has developed well defined symptoms of hypopituitarism. She has the mental and physical development of a child of 5. Her most marked symptoms are: weakness, unsteady gait, obesity, dryness of the skin, lack of physical and mental development and wetting of the bed. Her coordination of muscular movements is so poor that she is unable to feed herself. Constipation has been a prominent symptom for six years. For one month she has had a capsule, three times daily, consisting of 2 grains of extract of the whole pituitary gland, 1 grain of extract of thyroid, and 1 grain of ovarian extract. The authors believe that the condition is one primarily of the disturbance of the anterior lobe of the pituitary gland in which there is a diminished secretion, with secondarily a diminished secretion of the thyroid.

**Sponge-Forceps Method of Treating Incomplete Abortion.**—No originality is claimed by King for the method he uses. The patient is always anesthetized, is carefully prepared with green soap and water, followed by alcohol, a self-retaining speculum is introduced, the cervix is grasped by a volsellum and dilated gently (if necessary). In the majority of cases, the cervix is open enough to admit the sponge forceps or the finger, and no dilation is necessary. Ordinary sponge forceps are introduced, and with them the retained secundines are seized and withdrawn. The forceps are introduced and withdrawn two or three times, until no more remnants are found, and then are introduced with a sponge in their grasp, which is twisted around inside the uterus to remove any small particles that may be left. Finally, if the cervix is sufficiently dilated, the finger is introduced and the cavity carefully palpated in order to make sure that all particles have been removed. This step is not regarded as essential, and is often omitted, as the cessation of bleeding is a very reliable indication that the cavity is empty. The uterus is not irrigated, no chemicals are used in its interior, and no pack is used, except in the rare case in which rather free bleeding persists in spite of complete evacuation. The after-treatment is simply rest, local and general, for from three to six days. The patient is allowed up as soon as the uterus has involuted well, and she is discharged two or three days later. King has found that this method is as effective as the use of the curet in the removal of the retained material, is not followed by fever, and is not attended by any risks.

## New York Medical Journal

March 20, 1920, **111**, No 12

Treatment of Flail and Stiff Joints. R. Jones, Liverpool.—p. 485.
Appendicitis in the Argonne. E. Eliot, Jr., New York.—p. 487.
Gonorrheal Infection in Childhood. P. Brooke Bland, Philadelphia. —p. 489.
Blood Transfusion in Modern Therapeutics. G. I. Miller, Brooklyn. —p. 492.
Cholesteatoma, Report of Five Postoperative Cases. J. M. Smith, New York.—p. 495.
Influenzal Pneumonia. J. Harkavy, New York, and J. H. Selby, Washington, D. C.—p. 497.
Goiter. J. C. O'Day, Honolulu.—p. 503.
Electrotherapeutics and the Medical Profession. H. Finkelpearl, Pittsburgh.—p. 506.

## New York State Journal of Medicine

March, 1920, **20**, No. 3

*Chronic Appendicitis; A Study of Postoperative End Results. E. M. Stanton, Schenectady.—p. 66.
What Can Be Gained in Thorough Study of Treatment of Serious Wounds In Late War in Its Application to Railroad Surgery? E. A. Vander Veer, Albany.—p. 70.
Present Conception of Significance of Cardiac Phenomena. A. A. Jones, Buffalo.—p. 73.
Clinical Course and Treatment of Vincent's Angina. C. F. Theisen, Albany.—p. 77.
Influence of Diseased Sinuses on Body in General. G. F. Gott, Buffalo.—p. 79.
Case of Recurrent Tonsillar Growth. J. J. Rainey, Troy.—p. 80.
Treatment of Borderline and Obscure Cases. F. B. Turck, New York. —p. 82.

**Chronic Appendicitis.**—In Stanton's experience chronic appendicitis has proved to be a rather sharply defined disease in which the symptoms may be recognized by the fact that they produce in miniature the first symptoms of the acute attack. The disease differs from the acute appendicitis by the fact that the obstruction is incomplete or because it is habitually relieved before the acute inflammatory stage develops. The pathologist's report, based on the microscopic examination of so-called chronic appendixes is unreliable. Most symptom producing chronic appendixes may be recognized at the operating table by the presence of gross anatomic factors predisposing the appendix to attacks of partial or complete obstruction of the lumen.

## Ohio State Medical Journal, Columbus

March 1, 1920, **16**, No. 3

*Heart in Focal Infections. J. E. Greiwe, Cincinnati.—p. 151.
Septic Foci in Relation to Bones and Joints. R. B. Cofield, Cincinnati.—p. 155.
Pathologic Conditions of Teeth as Shown by Roentgen ray. H. J. Means, Columbus.—p. 157.
*Streptococcus Viridans Infections of Mouth and Throat with Reference to Neuritis and Arthritis. C. H. Hay, Cleveland.—p. 162.
Murphy Treatment of Acute Arthritis. C. DaC. Hoy, Columbus.—p. 167.
Indications for Removal of Tonsils in Childhood. H. C. King, Cleveland.—p. 170.

**Heart in Focal Infections.**—Greiwe suggests that chronic septicemia, due to pyorrhea alveolaris, must be given serious attention in considering the etiology of inflammations and degenerations, as well as dilations of the ascending aorta, the arch and the descending aorta.

**Streptococcus Viridans Infections of Mouth and Throat with Reference to Neuritis and Arthritis.**—In Hay's experience, *Streptococcus viridans* plays a very important rôle in the etiology of cases of neuritis and arthritis which are not accompanied with swelling and fever, a feature of differential diagnostic importance. Granted the elimination of the source of toxemia, an autogenous vaccine of the cultured *Streptococcus viridans* has given markedly beneficial results in Hay's cases.

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# FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

## British Medical Journal, London

Feb. 28, 1920, **1**, No. 3087

Diagnosis of Glaucoma. R. H. Elliot.—p. 279.
Epilepsy; Recurrent Herpes; Lethargic Encephalitis. J. Taylor.—p. 282.
*Intravenous Protein Therapy. A. E. Gow.—p. 284.
*Poison of Spiny Dog-Fish. H. Muir Evans.—p. 287.
*Metastatic Staphylococcal Infection of Kidney. H. R. Souper.—p. 288.
*Volvulus of Cecum: Double Obstruction. R. E. Smith.—p. 289.
Use of Immunized Blood Donors in Treatment of Pyogenic Infections by Whole Blood Transfusion. H. J. B. Fry.—p. 290.
Functional Connection Between Reproductive Organs and Other Glands of Internal Secretion. E. E. Hewer.—p. 293.

**Intravenous Protein Therapy.**—Gow has given peptone intravenously in conjunction with sensitized vaccine subcutaneously in streptococcal septicemia, and is convinced of its value in such cases. In certain forms of arthritis great benefit has been derived from intravenous protein therapy. Here the vaccine is given entirely for a shock effect. The type of joint disease which responds best, in Gow's experience, is the multiple infective arthritis for which no active source of primary infection or septic absorption is demonstrable. While Gow regards intravenous protein therapy as of great value in certain carefully selected cases—more particularly of arthritis, the septicemias and coliform infections—he states most emphatically that it is not a panacea for all ills; and even in those diseases in which it is of use it is to be regarded solely as an accessory weapon in conjunction with, not to the displacement of, other remedies.

**Poison of Spiny Dogfish.**—A case of acute edema, the result of a prick by a dogfish, is reported by Evans. A fisherman sustained a punctured wound at the base of the thumb infected by a dogfish. The injury was followed by acute stabbing pain in the part which lasted four or five hours; the hand then began to swell, and when the patient arrived at the hospital there was great swelling and edema of the back of the hand, and the front of the wrist and forearm were painful, tender, red and edematous. This acute inflammatory edema lasted for four days and for a time it seemed that suppuration would occur. On the fifth day the edema at the back of the hand had subsided, but it was not until seven days had elapsed that the tenderness and swelling over the wrist had disappeared and the patient was convalescent. The treatment adopted was to paint the hand and the front of the wrist and forearm with liniment and solution of iodin in equal parts and apply hot fomentations.

**Metastatic Staphylococcal Infection of Kidney.**—The infection of the kidney observed by Souper followed on operative interference with an infected wound of the forearm. The condition cleared up on treatment with an autogenous vaccine.

**Volvulus of Cecum: Double Obstruction.**—The original lesion in the case cited by Smith was a tuberculous affection of the mesenteric glands leading to a strong adhesion between the hepatic flexure and the last 2 inches of the ileum. The early stages of this were noted in the atypical gastric symptoms due to an ileac "kink" and obstruction to the ileac efflux, so often mentioned in the literature. Some indiscretion of diet, followed by decomposition of the contents of the cecum produced a "balloon" of this viscus, which, being mobile, rose up, turned on a hinge and become a volvulus, producing further obstruction at the already kinked hepatic flexure. Relief of this obstruction and the replacing of the cecum away from the ileum brought into force a second kink in the ileum from which ensued the intestinal obstruction.

## China Medical Journal, Shanghai

January, 1920, **34**, No. 1

1918 Pandemic of Influenza in Canton. W. W. Cadbury.—p. 1.
Four Cases of Thromboangiitis Obliterans. A. I. Ludlow.—p. 18.
Case of Acute Symmetrical Gangrene. E. M. Ewers.—p. 23.
Transverse Presentation: Case of Spontaneous Evolution. W. Phillips.—p. 24.
Cases of Abdominal Surgery. C. Wilkinson.—p. 26.
Case of Perithelioma of Carotid Glands. J. O. Thomson.—p. 32.
Viability of Epidermophyton. H. Dold.—p. 34.
Acute Lymphatic Leukemia; Report of Case. E. S. Tyau.—p. 37.
Vaccine Service at "Institut Bacteriologique" of Chengtu. H. Jouveau-Dubreuil.—p. 41.

## Japan Medical World, Tokyo

Feb. 1, 1920, **10**, No. 5

*Prophylactic Inoculation with Influenza Vaccine. S. Yabe.—p. 105.

**Prophylactic Inoculation with Influenza Vaccine.**—The results obtained by Yabe in two series of experiments seem not to favor the possible protection of the animal by the administration of the vaccine. If the results of the experimental active immunization of the animals against influenza and of the passive immunization of the animals (with the convalescent serum) are considered antithetically, they both do not appear to produce a complete protection. It is, however, an interesting fact to note that the convalescent serum contains a certain amount of immune bodies, although in a very small quantity. This may be taken as the standard for the possibility of the production of protective properties in the vaccinated.

## Journal of State Medicine, London

February, 1920, **28**, No. 2

Early Diagnosis of Pulmonary Tuberculosis. H. G. Sutherland.—p. 33.
Diagnosis and Treatment of Tuberculosis in Relation to Public Health. H. H. Thomson.—p. 46.
Selection of Patients for Sanatorium Treatment. C. Wall.—p. 55.

## Lancet, London

Feb. 28, 1920, **1**, No. 9

Ovarian Tumors Complicating Pregnancy, Labor and Puerperium. H. R. Spencer.—p. 475.
*Influenza as an Etiologic Factor in Nephritis. W. W. D. Thompson and H. F. MacCauley.—p. 481.
*Factors Concerned in Asthma and Their Treatment. D. W. C. Jones.—p. 484.

One Hundred and Three Cases of Compound (Gunshot) Fractures of Femur. P. Turner.—p. 488.
Hypnotic Treatment of Narcolepsy. C. S. Meyers.—p. 491.
*Pancreatic Insufficiency. J. O. Symes.—p. 494.
Acute Total Inversion of Parturient Uterus. H. T. Whitling and N. Glover.—p. 495.

**Influenza as Etiologic Factor in Nephritis.**—The points emphasized by Thompson and McCauley are: Nephritis is a more frequent complication of influenza than is commonly thought. The virus of influenza may affect the kidneys in various ways: (*a*) By producing a temporary albuminuria as seen in many other acute infectious fevers. (*b*) By causing an acute nephritis during the course of the disease, especially if respiratory symptoms are present. (*c*) Nephritis may arise during convalescence, as in scarlatina. The damage of the kidney may not become manifest until the patient is believed to have recovered from the original disease. (*d*) A dormant or latent nephritis may be lighted up. Nephritis may follow even mild cases of influenza. Nephritis occurring during the course of influenza may be masked by the respiratory symptoms and only careful routine examination of the urine may demonstrate its presence, while some of the cases arising after the symptoms of influenza have abated may show such slight symptoms—transient edema, slight oliguria, or capricious albuminuria—that they may easily be missed. The authors report four cases occurring in one family. In all these cases a careful inquiry was made as to the possibility of renal trouble existing previous to the influenzal attack, but the suspicion was absolutely discountenanced in every case.

**Factors Concerned in Asthma and Their Treatment.**—In the treatment of asthma, Jones maintains one has to consider an irritable center, hysterical influence of that center, infections of the bronchi and parts of the lungs below them, more especially with specific bacteria whose toxins induce the paroxysms, abnormalities of the respiratory tract superior to the bronchi, and irritation of viscera outside the respiratory tract altogether. For the center the use of sedatives, and the usual psychical methods applicable to hysteria must be employed as required. For the nose and throat, surgical methods are generally needed, and appropriate treatment must be given to other visceral disturbances. As to the respiratory tract proper, bronchitis must be treated in some way or other. It is a bacterial infection, and in all recovery from such infections the natural capacity of the body to elaborate antibodies is required for which the only therapeutic measure is treatment by appropriate vaccines; finally, if the hypothesis as to the specific character of certain bacterial toxins in the causation of asthma is correct, that cause also can frequently be combated by the employment of vaccines. It is submitted that this constitutes a scheme for the treatment of the asthmatic state on rational lines.

**Pancreatic Insufficiency.**—The case reported by Symes is said to lend support to the view that oxaluria may arise from the fermentation of carborydrates in the digestive tract. In this instance the faulty digestion of starch was due to the insufficiency of the pancreatic secretion. The first attack of oxaluria occurred thirty years before the patient's death, and the author believes that probably at this time there was commencing fibrosis of the pancreas. Seventeen years later oxaluria recurred, and with it glycosuria and albuminuria. The glycosuria was never severe, and six years later, when the patient was carefully dieted, it disappeared, to return only on one or two occasions, when he had broken his dietary régime. It was an alimentary glycosuria, and to the end of his life the patient preserved sufficient pancreatic substance to prevent the appearance of the signs and symptoms of diabetes. A stone in the pancreatic duct gave rise to an acute attack during the autumn of 1911. Apparently it ulcerated its way out of the duct into the bowel. The characteristic stools of pancreatic insufficiency were noted some months before there were symptoms of a stone in the duct. The fact that the symptoms and signs became more pronounced after the stone had disappeared, Symes says, was owing, no doubt, to cicatrization and gradual narrowing of the lumen of the duct and the ever-increasing fibrosis of the pancreas. Other points of interest in the case are: (1) The rapid and ultimately fatal rise of blood pressure due to autointoxication from the bowel or to imperfectly antagonized suprarenal secretion. (2) The long continued good nutrition and physical and mental energy shown by the patient, which indicates to how great an extent pancreatic digestion may be assisted by other organs. (3) The relief afforded to the patient by withdrawing fat from the diet and giving acid preparations by the mouth (acidol pepsin, betain chlorid) after meals, the increased acidity stimulating the flow of secretion, and thus increasing both the internal and external secretions of the pancreas.

## Medical Journal of Australia, Sydney

Jan. 31, 1920, **1**, No. 5

Commoner Tropical Diseases in (Late) German New Guinea. L. H. Hughes.—p. 97.
*Resection of Impassable Stricture of Urethra. Report of Three Cases. S. H. Harris.—p. 99.
*Value of von Pirquet's Test for Tuberculosis in Children. W. F. Litchfield.—p. 101.
Conditions That Simulate Tubercular Disease of Hip. R. B. Wade. —p. 102.
Volvulus of Colon with Internal Hernia of Cecum. L. L. Snow. —p. 103.
Recovery from Influenzal Meningitis. W. F. Litchfield.—p. 104.

Feb. 7, 1920, **1**, No. 6

Acute Rheumatic Heart Disease. J. M. Gill.—p. 119.
Tuberculin Therapy. J. F. Spring.—p. 121.
Treatment of Irreducible Intussusception in Children. A. Successful Resection by Maunsell's Method. H. Rischbieth.—p. 123.

**Resection of Impassable Stricture of Urethra.**—The method of treatment described by Harris is founded on the following basic principles: (1) that the perineal portion of the male urethra may be slit up on its floor to any desired extent and thus converted into a "ribbon"; (2) that any damaged portion may then be resected and the ends of the "ribbon" sutured together; (3) that, finally, provided no urinary contamination of the wound be permitted, the urethra will resume its tubular form naturally and in due course.

**Value of von Pirquet's Test for Tuberculosis in Children.**—Observation has confirmed Litchfield's belief that the von Pirquet test for tuberculosis in children, when used and interpreted with discretion, is of considerable clinical value.

## National Medical Journal of China, Shanghai

December, 1919, **5**, No. 4

Recent Cholera Epidemic in China. Wu Lien-teh and J. W. H. Chun. —p. 182.
Economic Aspects of Public Health. A. J. Smith.—p. 199.

## Archives des Maladies de l'App. Digestif, Paris

December, 1919, **10**, No. 6

*Signs of Insufficiency of the Stomach. M. Labbé.—p. 321.
*Symptoms of Dysentery with Uterus Disease. M. Devic and M. L. Bouchut.—p. 346.
*The Stomach Disturbances After Vaccination Against Typhoid. L. Timbal.—p. 351.

**Signs of Insufficiency of the Stomach.**—Labbé comments on the close physiologic and pathologic connection between the stomach, intestine, pancreas and liver, so that it may be impossible to tell which organ was the primary one involved, but study of the gastric secretion may give the clue to the whole clinical picture. He prefers Töpfer's dimethylamidoazobenzol colorimetric method, as modified by Linossier, as the simplest and most rapid technic. Repeated examination revealing constantly abnormal findings indicates ulcer or persisting dyspepsia. The main point, he reiterates, is to regard the digestive apparatus as a whole and not center our investigations on any one organ alone. Even with hyperchlorhydria, this may not be responsible for all the symptoms, and there may be violent pains in the stomach with hypochlorhydria, showing that spasm of the pylorus is the cause of the pains, even with hyperchlorhydria. In his group of cases of hyperchlorhydria there were four of typical and six of probable gastric ulcer, and others with chronic enteritis, gastro-intestinal atony and dyspepsia of indefinite types. The hypochlorhydria group included cases of enterocolitis, gastric atony, gallstones, insufficiency of the liver, neuropathies, and in one case a gastric ulcer. In the group with

anachlorhydria, more than half of the patients had enteritis, and others insufficiency of the liver, neuropathies, gastralgia and anemia, alcoholic gastritis or ulcerative perigastritis.

**Dysentery with Uterus Disease.**—Devic and Bouchut report two cases in which symptoms suggested dysentery but resisted all treatment on this basis. They subsided at once in one case after discovery of a small fibroma on the rear wall of the uterus, pushing in the rectum wall at this point, and the uterus was removed. In the second case simple retroversion of the uterus, pressing on the rectum, caused the symptoms supposed to indicate dysentery. In the first case the symptoms were of long standing, and the condition was so grave that the woman did not long survive. In the retroversion case the supposed dysentery was of only two months' duration. The patients were 50 and 43 years old. The entire pelvis should be examined with intestinal disturbance.

**Stomach Disturbance After Vaccination Against Typhoid.**—Timbal reports a personal case and cites three others from the records in which hematemesis followed the vaccination. They teach the importance of investigating the history, and refraining from vaccination on suspicion of ulcer or cancer. Simple dyspepsia is not a contraindication.

## Archives Mens. d'Obstétrique et de Gynécologie, Paris

December, 1919, **8**, No. 12

*Radium Treatment of Cancer of Cervix. Recasens (Madrid).—p. 676.
*Bactericidal Action of Radium. P. Lequeux and E. Chomé.—p. 698.

**Radium Treatment of Cancer of Uterine Cervix.**—Recasens has been treating malignant disease of the cervix with radium since 1913, and many cases of supposedly inoperable cancer have been cured for three, four and five years to date. He is seeking with so many others to learn why it failed in 30 or 40 per cent. of his over 400 cases, even when conditions, structure, etc., seemed identical. Another astonishing feature of radium treatment is that sometimes when it seemed to have failed completely and the treatment was abandoned as hopeless, the woman returned months later immeasurably improved or even clinically cured. There had evidently been a cumulative action from the radium, and the organism had rallied some mysterious forces to its suport. These mysterious forces must be discovered and harnessed in our service. The cancer and the radium both depress the numbers of leukocytes, and we must seek to induce leukocytosis as an aid in the fight against the malignant disease. His experience confirms further that the toxic cachexia is aggravated by radium treatment which pours more toxins into the circulation. Before the radium is applied, the number of leukocytes must be increased and the best means for this, he says, is by application of diathermy to the spleen. Almost at once the blood usually shows increased numbers of leukocytes. It has long been known, he says, that the spleen has a cancrolytic action, but no means has been devised as yet that will enhance this.

No drugs were found effectual except that colloidal copper by the vein seemed sometimes to augment the susceptibility of the cancer cells to the radium, the cure being realized earlier in these than in other cases. This encourages further search for chemicals which may alone cure cancer, but for the present we can use it as an adjuvant. Numbers of chemicals were tested locally, and also diathermy but none displayed any efficacy. To avoid secondary infections, he treats the cancer with a 10 per cent. solution of copper sulphate before applying the radium and douches the vagina with a 1 per cent. solution. The amount of radium used is 70 mg., at eight day intervals, and the glands in the region are given supplementary roentgen treatment. The papillary form of cancer is most amenable to radium when the tube can be placed so it is completely surrounded by the excrescences of the tumor.

**Action of Radium on Bacteria.**—Lequeux and Chomé were unable to detect any destructive influence from the radium rays on the typhoid and colon group. The rays arrest the progress of the culture, check production of pigment, and cause agglutination, but no bactericidal action was evident except for the gonococcus, and perhaps also for the streptococcus. The action of radium on bacteria in the blood stream was not demonstrated, but certain facts observed are certainly significant, namely, that one mouse thus treated survived experimental pneumococcemia; rabbits developed milder sepsis after inoculation with staphylococci, and a few other similar experiences.

## Bulletin Médical, Paris

Feb. 11, 1920, **34**, No. 8

Blood Pressure in Last Phase of Arteriosclerosis. Amblard.—p. 127.
Treatment of Constipation. J. Génévrier.—p. 130.

Feb. 14, 1920, **34**, No. 9

Medical Service in the Paris Hospitals. L. Brocq.—p. 141.

Feb. 18, 1920, **34**, No. 10

*Therapeutic Anti-Anaphylaxis. J. Danysz.—p. 155.
Treatment of Vomiting in Children. Stévenin.—p. 157.

**Therapeutic Antianaphylaxis.**—Danysz' method of treating disease by combating the factor of anaphylaxis has already been described in these columns, June 7, 1919, p. 1707. He here describes anew the technic and his experience in 352 cases since 1913. In seeking for an efficient antianaphylactic, he started from the theory that the focus for production of the substances generating the anaphylaxis in the majority, if not in all, of the chronic, noncontagious diseases, is in the bowel: The albuminoid matters or microbian contents of the intestinal canal passing into the blood through the congested intestinal mucosa act as antigens and induce the anaphylactic state of the organism. Consequently, he reasoned, the microbes isolated from the intestinal contents ought to act as antigens when inoculated or ingested. The microbes are isolated from a scrap of stool by sowing on ordinary culture bouillon and then making pure cultures on gelose, and then mixing the cultures in the same proportions as found originally. This is diluted with physiologic serum, sterilized with heat and the dose determined by weight. For ingestion, the dose is $\frac{1}{10}$ to $\frac{5}{10}$ mg. of the microbian bodies; for injection $\frac{1}{1,000}$ or $\frac{1}{1,200}$ mg. At first he made an autogenous antigen for each patient, but finding that the species and proportions of bacteria were so uniform, he used a polyvalent heterogenous preparation in some cases. The results were less pronounced when a single species was used. In treating the tuberculous, he added a little tuberculin to the polyvalent entero-antigen, as he calls the preparation. The treatment is based on the same principle as the protein therapy, peptone injections, parenteral milk injections, etc. "It is almost absolutely harmless," he says, "and its action seems to be not directly on the lesions of the disease but on the central nervous system, and especially on the medulla oblongata. This in turn reacts with a stimulating or regulating effect on the glandular functions, just as we find an attack of fatal anaphylaxis can be aborted by a strong dose of alcohol or ether taken before the dose that induces the anaphylactic attack. We know also that a more or less generalized anaphylactic attack can be brought on by intense fear or grief. All this shows that the central nervous system can be deadened or whipped up enough to prevent or induce these cellular metabolisms which are revealed by the symptoms. . . . We know also that the cell reactions which have as their immediate definite results a diarrhea, attack of asthma or urticaria, are always of the same nature, whatever the primary cause of the crisis; whether it is an emotion, an odor, a sensation of cold or an antigen. We thus have reason to assume that in the nonspecific reactions it is always some reaction in the central nervous system which starts the crisis or aborts it or cures it. . . . The evidence to date indicates that the antigens derived from the stools are the most potent yet known for influencing the nerve centers in this way."

The dose of the entero-antigen must be very small to begin with (0.05 or 0.1 c.c. of a dilution containing 0.01 mg. of microbian bodies per 1 c.c.). It is best to avoid a febrile or other reaction (except in psoriasis). The 352 cases treated include many of urticaria and eczema cured for over four years without recurrence; of psoriasis and epilepsy cured for over a year; of asthma and emphysema for more than three years, and of glandular, renal and testicular tuberculosis cured for over two years. But in some of the cases of psoriasis,

dysmenorrhea or gastro-intestinal disease there was recurrence in three or six months, but these yielded promptly to resumption of the entero-antigen. In nervous disturbances the effect is usually apparent at once, but in constipation it may not become apparent until several weeks after a series of eight or ten injections. Cures have been realized in 90 per cent. of all the cases treated, with the exception of psoriasis, in which only 60 per cent. were cured, and in epilepsy. Complete and durable remissions were realized in epilepsy only in children, although the seizures in adults were mitigated and rendered less frequent. In addition to the pathologic conditions already mentioned, his list includes arthritis, rheumatism, slight chronic albuminuria, and the disturbances of the menopause.

## Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 23, 1920, **44**, No. 3

*Intramuscular Injection of Antitoxin. B. Weill-Hallé.—p. 83.
*Fibrous Chronic Rheumatism. P. Lereboullet and J. Mouzon.—p. 86.
Relapsing Lethargic Mesencephalitis. Sicard and Kudelski.—p. 93.
*Myoclonic Acute Encephalitis. Idem.—p. 94.
Discovery at Necropsy of Latent Pneumothorax of the Base. E. Rist and P. Ameuille.—p. 99.
The Terminal Jaundice of the Tuberculous. P. Ameuille.—p. 102.
*Meningeal States with Narcolepsy. H. Claude.—p. 104.
*Friedländer Bacillus Pleuropneumonia. C. Flandin and M. Debray.—p. 108.
Case of Lethargic Encephalitis. A. David.—p. 111.
Mesenteric Thrombophlebitis with Latent Cirrhosis. A. Cade and P. Brette.—p. 114.
Facial Paralysis in Influenza. A. Porot and N. Sengès.—p. 118.

**Treatment of Diphtheria.**—Weill-Hallé obtained superior results, he says, when he gave the antitoxin in a single large intramuscular dose. As a rule he makes the injection in the buttocks, injecting 250 units in moderate cases per kilogram of weight, and from 500 or 600 units in the graver cases. It is seldom necessary to supplement this with subcutaneous injections.

**Fibrous Rheumatism.**—Lereboullet and Mouzon illustrate the extreme dislocation of the fingers in the case described, evidently merely from relaxation of the ligaments and capsules of the joints involved.

**Myoclonic Acute Encephalitis.**—Sicard and Kudelski report four cases of a disease commencing with severe neuralgias, lancinating pains, general depression, and moderate fever; then comes a period of brief rapid rhythmic myoclonus, explosive twitching of the muscles in various segments of the body. The neuralgias persist and the third week there is delirium, while the myoclonic play of the muscles becomes attenuated; the diaphragm may keep up the myoclonus to the last. All but one of these cases passed into fatal coma. Netter stated in the discussion that followed that he had encountered some cases of this myoclonic type associated with lethargic encephalitis, and some cases of the latter which began with severe neuralgias. He said further that in 1918 the appearance of lethargic encephalitis preceded that of influenza. He thinks that probably the factors responsible for influenza are the same ones which entail the other disease, although the two diseases are separate entities.

**Meningeal States with Narcolepsy.**—Claude reports three cases recently observed which seemed to represent a condition midway between actual meningitis and lethargic encephalitis. They ran a rapid course, with recovery. They differed from epidemic and tuberculous meningitis by the prolonged torpor and somnolency, diplopia and ptosis.

**Friedländer Bacillus Pleuropneumonia.**—The woman of 40 developed septicemia, the work of the Friedländer bacillus, starting in a fetid rhinitis and localizing in a lobe of one lung and also in the biliary apparatus, inducing jaundice, with final recovery in a month although an old heart disease had rendered the outlook dubious at first.

## Journal d'Urologie, Paris

January, 1920, **8**, No. 6

*Treatment of Hypospadias. Nové Josserand.—p. 449.
*Absence of Ejaculatory Duct. P. Ancel.—p. 457.
*Calculi in Both Kidneys of Girl of Five. Moran.—p. 463.
Technic for Bacteriologic Control of Cure of Urethritis. E. Roucayrol and Renaud-Badet.—p. 469.

**Hypospadias.**—Nové-Josserand has reconstructed the urethra in thirty-five cases of hypospadias and five of epispadias with full success in thirty-seven instances. The tube drawn into the tunnel was made of skin, the epidermis inside, and it was drawn over the segment of the normal urethra, through an incision 6 or 8 cm. long, exposing the urethra from below The first step is to divert the urine by a hypogastric cystostomy. He advises to operate as soon as possible after birth to allow the corpus cavernosum to develop properly. The long incision, including the hypospadias meatus at about the center, is sutured with No. 00 aluminum bronze wire over Galli tubes placed on each side of the incision to bring the lips largely into contact and ward off all danger of a fistula. The wires are passed through the base of the skin flaps, about 1 cm. apart, leaving a minute opening at the proximal end of the incision for drainage. The details of the operation are shown in seven illustrations and the technic commended as an improvement over others in vogue.

**Absence of Ejaculatory Duct.**—Ancel found that this duct was missing in four specimens recently examined. The anatomic conditions responsible for this differed widely.

**Calculi in Both Kidneys in Girl of Five.**—Moran had to operate on both kidneys at the same sitting to remove the multiple calculi responsible for the anuria. The child has developed normally but the urine is still turbid four years later and contains formed elements and bacteria.

## Paris Médical

Feb. 14, 1920, **10**, No. 7

*Heart Complications with Influenza. Minet and Legrand.—p. 133.
*"Parchment" Dermatitis. Gougerot.—p. 140.
*Solar Plexus Sign with Abdominal Neuropathies. Fraikin.—p. 143.
Organic Hemiplegia in the Gassed; Two Cases. E. Terrien.—p. 145.

**Cardiac Influenza.**—Minet and Legrand comment on the scarcity of communications dealing with the heart complications of influenza. They have encountered six cases. They discuss in connection with these cases the various sets of symptoms that may be presented according as different parts of the heart, the innervation or the endocrine glands are affected. The prognosis is always grave for the organic forms, and should be reserved for all types, especially with an already fatigued or damaged heart. Absolute repose is indispensable, with revulsion or ice to the region, and stimulants for the heart, as needed, and suprarenal treatment, which may have an actually causal action.

**Parchment Dermatitis.**—Gougerot describes a streptococcus-staphylococcus dermo-epidermitis in which the skin peels off in large thick scales, like the bark of a tree. It proved in his six cases to be the most tenacious of these microbian dermo-epidermitis types.

**The Solar Plexus Sign in Abdominal Neuropathies.**—Fraikin says that when the nervous apparatus of the abdomen is out of order, there may be spontaneous pain or tenderness in the solar plexus. It is a sign that the circulation is hampered in or outside of the viscera, or the nerves are suffering from toxic action or from traction from sagging organs. This solar sign may serve to differentiate a purely nervous affection from an organic visceral lesion and it may guide to proper treatment of the neuromotor dyspepsia, general neuropathies, etc. Physical agents are generally the ones indicated.

## Presse Médicale, Paris

Feb. 4, 1920, **28**, No. 10

*Anaphylaxis to Acetylsalicylic Acid. F. Widal and P. Vallery-Radot.—p. 93.
*Malaria with Subnormal Temperatures. R. A. Gutmann and R. Porak.—p. 95.

**Anaphylaxis to Acetylsalicylic Acid.**—Widal and Vallery-Radot report a case of actual anaphylaxis to acetylsalicylic acid, persisting for nine years. Then a systematic effort was made to overcome this anaphylaxis by giving the drug twice at an hour interval, first 0.005 gm. and then 0.25 or 0.5 gm. This was repeated thirteen times in six weeks—the preliminary doses increased from 0.005 to 0.03 gm.—and this sufficed to cure completely all tendency to the anaphylaxis.

It was of the typical alimentary type, and the desensitization was realized with the technic effectual in this type. They remark in conclusion that clinical observation rarely allows us to watch the modifications insidiously going on in the organism. But once in a while we encounter conditions which, as in this case, enable us to trace the series of these transformations with the precision of experimental research. When such an occasion arises, we should seize and record it with scrupulous care as it may by comparison reveal the significance of certain pathologic phenomena hitherto inexplicable. By compiling data, as in the case here reported, we may discover the origin of a whole series of pathologic conditions the cause of which can be traced to some preceding sensitization, which might be cured by desensitization.

**Hypothermic Malaria.**—Gutmann and Porak give some charts from cases of malaria in which the disease progressed by regularly intermittent phases in which the temperature dropped below normal instead of soaring above it. This hypothermic form entails cachexia or grave complications the same as the ordinary form, unless arrested by treatment in time, but on account of the absence of fever the malaria may be misinterpreted.

## Revue Franç. de Gynécologie et d'Obstét., Paris

November, 1919, **14**, No. 11

*Experimental Sensitization of Guinea-Pig Mucosa to the Gonococcus. P. M. Besse and D. Christidès.—p. 415.
Allowing Parturients to Get Up Early. J. Audebert.—p. 421.
*Bilateral Ovariectomy During Pregnancy. A. Grosse.—p. 424.

**Guinea-Pigs and the Gonococcus.**—A predisposition has to be induced before guinea-pigs can be used for experimental research with the gonococcus. Besse and Christidès think that this could be accomplished by modifying the diet, but the three animals tested did not yield conclusive results.

**Bilateral Ovariectomy in the Pregnant.**—Grosse adds another case to the fifty-two cases he has found on record in which both ovaries were removed during the first four months of pregnancy. The operation is no more dangerous on the pregnant than on other women. The pregnancy continued unmolested in all except in 13.7 per cent. This testifies that the corpus luteum is not indispensable for the development of the fetus. With unilateral ovariectomy, the abortion followed only in 11.5 per cent. in the first three months, and in 3 per cent. in the fourth month, in a recent compilation, while with bilateral ovariectomy the proportions were 25 per cent. the first two months, 11 the third, and 12 the fourth. In Grosse's own compilation, the figures were 16, 11.75 and 10 per cent. in these months. These figures suggest a possible influence exerted by the corpus luteum on the pregnancy, and warn that it is better not to remove the ovaries early during a pregnancy except for urgent indications. Three pages of bibliography on the subject are critically reviewed.

## Revue Médicale de la Suisse Romande, Geneva

January, 1920, **40**, No. 1

*Evolution in Medical Organization. L. Exchaquet.—p. 3.
*Diagnosis of Mastoiditis. P. Terrier.—p. 11.
Tests of Stomach Functioning. E. Cottin and M. C. Saloz.—p. 22. Cont'd.
Lymphosarcoma of the Spleen. G. G. Moppert.—p. 40.

**Evolution of Medical Organization.**—Exchaquet concludes his study of this subject by urging that medical students should be taught the ethics of the profession, and that the leaders of the profession should take special pains to counsel and guide young physicians in the right path. The medical faculty at Lausanne have announced a lecture on deontology in each semester, and the professors are instructed to draw the attention of the students to such matters, and inculcate the principles of medical ethics.

**Diagnosis of Mastoiditis.**—Local pain and high fever, in children, and deafness usually warn that the otitis has spread to the mastoid when they persist longer than two or three days after ample drainage of the ear and other proper measures. If the fever is of the pyemic type, an operation should be done at once, even if the mastoid is not tender. If signs of meningism do not subside by twenty-four hours after perforation of the tympanic membrane, the operation should follow at once, as also in case of vertigo and spontaneous nystagmus. Even without other signs, if the suppuration keeps up profuse for a month, the mastoid is probably involved. Terrier adds that cholesteatoma is a great purveyor of intracranial complications. Even in syphilis an operation is required, supplemented by specific treatment. Mastoiditis of mechanical nasal origin is not rare, secretions being forced into the eustachian tube by sneezing or blowing the nose; he has had seven such cases in the last few months, in which the infection spread directly to the mastoid. The severe complications in these cases confirm the necessity for operating immediately in mastoiditis of nasal origin, even if the temperature is normal. In any event, operate when there is suspicion of mastoiditis without waiting for absolute certainty. Diabetes entails a special predisposition to necrotic processes in bones; and mastoiditis is liable to be exceptionally grave in influenza, scarlet fever, diphtheria, measles and typhoid. The destruction in the first two proceeds unusually rapidly, but the recent epidemic of influenza usually spared the ear.

## Schweizer Archiv. f. Neurol. und Psychiatrie, Zurich

1919, **5**, No. 2

Disturbance in Internal Speech. F. Lotmar.—p. 206. To be cont'd.
Inhibitions in Chorea. R. Mourgue.—p. 240. Conc'n.
Structure of Nerve Cells. J. Caramanis.—p. 264.
The Arm Region in the Cortex. H. Meier-Müller.—p. 270.
The Plantar Reflex. H. Bersot.—p. 305. Cont'n.
Fibers Between Thalamus and Frontal Brain. T. Fukuda.—p. 325.
Development of Choroid Plexus. C. v. Monakow.—p. 378.

## Schweizerische medizinische Wochenschrift, Basel

Jan. 29, 1920, **50**, No. 5

*Abnormal Bending In of Ankle. H. Iselin.—p. 81.
*Measurement of Goiter. H. Hunziker.—p. 86.
Direct Local Treatment of Gonorrheal Spermatocystitis. H. Koller.—p. 87.
Rupture of Mesentery from Contusion. Stocker-Dreyer.—p. 90.
Technic for Raying after Removal of Cancers. H. Hopf and I. Iten.—p. 91.

**Treatment of Bending in of the Ankle.**—A wedge-shaped insole straightens the foot and cures the deformity in time, but it has to be carefully graded to the exact degree of deformity. To measure this, Iselin has the man stand the foot on two superposed blocks of wood, the inner edges of which can be jacked up to the height required to bring the median axis of the foot and leg into a vertical line, determined by line and plummet. The wedge insole is then made to correspond to the slope of the upper block on the lower, as shown in the illustrations. In this connection Iselin discusses the Swiss army shoe and points out certain remediable defects in this and in civilian shoes.

**Measurement of Goiters.**—Hunziker measures the width of the thyroid and the height of the side lobes, in centimeters. Multiplying the two figures gives the area of a square in which the thyroid can be imagined to fit as an ellipsoid figure. The area of this square allows an estimate of the size of the thyroid in different persons and at different times in the same person. We thus have a reliable and easily ascertained measure for the thyroid so that goiters in different lands and at different periods can be compared. When the gland cannot be palpated, the record is 0; with 1:1, the record would be 1; with measurements of 6:5 cm. the record would be 30; with measurements of 17:12 cm. the record would be 204, and so on. He urges that this standard scale be adopted and large series of records obtained in different countries so that the actual prevalence of goiter and its size in a given region, its maximum at a certain age and certain year or season, and other questions can be determined on an international scale.

## Annali d'Igiene, Rome

October, 1919, **29**, No. 10

Biologic Variations of Shiga Bacillus in Epidemic of Dysentery. B Maymone.—p. 653.
Technic for Preparing Bacterial Vaccines. M. L. Della Vida.—p. 673.

Epidemic of Bacillary Dysentery from Colon Bacilli Agglutinating with Flexner Serum. M. Almagià.—p. 685.
Prevalence and Clinical Pictures of Typhus During the European War. G. Sampietro.—p. 690. Conc'n.

## Policlinico, Rome

Jan. 26, 1920, **27**, No. 4

*Lethargic Encephalitis: Symptoms and Course. G. Sabatini.—p. 97.
*Idem: Bacteriology. G. Gabri.—p. 106.
Idem: Four Cases. C. F. Oggero.—p. 109.
Idem: On East Shore of Adriatic. L. Pergher.—p. 111.
Idem: History. L. and P. Fornara.—p. 113.

**Lethargic Encephalitis.**—Besides the five comprehensive articles listed above, the society transactions report a large number of cases of lethargic encephalitis at Bologna, Parma, Modena and Ancona. Sabatini mentions a case in which a man left Verona, where the disease was epidemic, and went to Calabria where the disease had not appeared at the time. Twenty days after his arrival he developed a typical case, which suggests that the incubation is about three weeks at least. The disease appeared in Italy last winter, but did not assume an epidemic character until this winter. He has had twenty-nine cases in his service at Rome. The lack of symptoms common to other diseases liable to be confused with it, is the most reliable diagnostic sign. One of the earliest symptoms was a rhythmic twitching of muscles, especially of the rectus and transverse abdominal muscles, and in the arms, neck and face, similar to the jerking induced by an electric stimulus. The rhythm of this twitching of the abdominal muscles was about 40 per minute in one case. Roentgenoscopy showed that the diaphragm did not participate in the movement, and that it was independent of the respiration rate. Chilling accentuated it and it kept up during sleep, and morphin did not suspend it. This sign sometimes gave the clue to the clinical picture. In one case the twitching was restricted to the cremasters, the testicles being kept in continual movement. The next day the abdominal muscles shared in the movements, and necropsy confirmed the encephalitis. The jerking sometimes simulated actual chorea. These "chorea" cases proved fatal. Neuralgic pains formed the main symptoms in some cases, pains in the spine, back of the neck and on pressure of the eyeballs. In some of the fatal cases there was no somnolency at any time. In one case the whole syndrome was reduced to moderate fever, persisting mental confusion and profound slumber for six weeks. There is always fever at the outset, but it may subside promptly. The patients sleeping calmly may even increase in weight during the disease. Necropsy shows that any part of the cerebrospinal axis may be affected, and not merely the brain. The lesions are extremely minute and may be merely microscopic hemorrhages, but they explain the polymorphism of the symptoms and their variability. The cases all fall into one of the four types, the lethargic, the motor excitement to actual chorea, or tetany, the paralytic, and the mental confusion type. Gabri cultivated what he thinks is *Micrococcus tetragenus* from his three cases. Fonara relates that hexamethylenamin in two of his cases caused spasm of the bladder with tenesmus and retention of urine, compelling its suspension. In one case parenteral injection of milk was followed by great improvement; the fever dropped by crisis and the patient roused from heavy sleep. Others reported cultivation of a gram-positive diplococcus, and confirmed the punctiform hemorrhages in sections of the brain. Fua described a case in a babe of 4 weeks, with ptosis, strabismus and coma, which, he says, sustain the assumption that lethargic encephalitis is a form of epidemic poliomyelitis.

## Riforma Medica, Naples

Dec. 6, 1919, **35**, No. 49

*Treatment of Purulent Pleurisy. S. Dalmazzoni.—p. 1065.
Technic for Micromethod Research. A. Barlocco.—p. 1067.
Clinical Pictures in Influenza. A. Bertolini.—p. 1069.
*Lymphogranulomatosis. C. Cantieri.—p. 1072.
Pituitary Surgery. E. Aievoli.—p. 1080.

**Purulent Pleurisy.**—Dalmazzoni rejects local anesthesia for these operative cases on account of the danger from reflex action. He anesthetizes with the patient lying flat on his back to insure the fullest possible expansion of the lungs, and then very cautiously turns him on his side with a cushion under the thorax to render convex the field of operation. His incision is 12 or 14 cm. long and follows the tenth rib, the center on a line with the middle of the scapula. He warns that to drain the pleura effectually we must not consider the cadaver but the position usually taken by the patient. He usually lies on the posterior hemithorax on the diseased side. About 3 cm. of the tenth rib are resected and more if necessary, but Dalmazzoni never rinses out the cavity nor introduces gauze into it, his reliance being on the efficient drainage and on keeping open the opening made. It is packed with gauze to insure this, and the opening is frequently cleansed with water and alcohol. He drains with a large tube 5 or 6 cm. long, traversed by another rubber tube, the transverse bar preventing the tube's slipping in too far. The drain could soon be removed and the drainage continued with a flat dressing, and the cure was complete in ten or twenty days. In twenty-two of his thirty cases thus treated the empyema was of influenzal origin. Lesions elsewhere were responsible for the deaths in the 9 per cent. fatal cases.

**Lymphogranulomatosis.**—Cantieri devotes nearly eight pages to the clinical and pathologic anatomic findings in a case, fatal in three months, in a man of 25.

## Rivista di Clinica Pediatrica, Florence

November, 1919, **17**, No. 11

*Hypothyroidism and Atrophy of Muscles. M. Pincherle.—p. 561.
*Agglutination of Proteus X in Various Children's Diseases. G. Fiore.—p. 598.
Special Pathology of Twins. C. Francioni.—p. 605; Reply. A. Borrino.—p. 606.

**Hypothyroidism and Atrophy of Muscles.**—Pincherle presents evidence to show the importance of the endocrine factor in the pathogenesis of defective nutrition and development of muscles. He describes with minute detail the case of a boy of 11, with unmistakable signs of thyroid deficiency from early childhood, actual congenital myxedema, on which became superposed progressive muscular atrophy. He has found only two analogous cases on record, and in one of them the coincidence was considered casual. In Pincherle's case the causal connection between the hypothyroidism and the muscular atrophy was brilliantly confirmed by the improvement under thyroid treatment. The atrophy was of the pseudohypertrophic type. The literature is reviewed, and the prospects of warding off or curing such muscular dystrophies by suitable organotherapy are extolled.

**Agglutination of Proteus in Various Children's Diseases.**—Fiore applied the agglutination test specific for typhus in from two to six cases of seven different diseases peculiar to childhood, and in eighteen other children with nephritis, acute rheumatism or gastro-intestinal disease. The response was constantly negative in all the forty-eight children tested with dilutions of from 1:200 to 1:10.

## Rivista Critica di Clinica Medica, Florence

Oct. 25, 1919, **20**, No. 43

*Tardy Osteoperiostitis with Inherited Syphilis. A. Varisco.—p. 505.

**Tardy Osteoperiostitis with Inherited Syphilis.**—The young woman had been apparently healthy, except for a few convulsions in infancy, until measles at 18. At 20 she complained of pains in the legs and large joints, and the latter began to enlarge in a few weeks, with a low continuous fever and drowsiness. The spinal fluid seemed to be normal. Not until the end of six months did the symptoms subside so she could leave the bed. After a few months of slight ups and downs, painful tumors developed in the crest of the tibia and other long bones and the clavicles, and numerous glands enlarged. After nearly a year from the first symptoms, a tentative course of mercurial treatment not only cleared up the diagnosis—the previously negative Wassermann reaction veering to positive—but resulted in practically a cure. There was nothing in the family history to suggest syphilis except the shape of the patient's teeth and a certain pigmentation of the face.

Nov. 8, 1919, **20**, No. 45

*True Infantilism: E. Bufalini.—p. 529. Begun in No. 44, p. 517.
Present Status of Cervical Ribs. Fornaseri.—p. 534.

**True Infantilism.**—Bufalini gives a detailed account of a case of true infantilism, the man of 20 presenting the complete physical and mental characteristics of a normal boy of 12. There was nothing to suggest endocrine disturbance or inherited taint. He theorizes to explain this type, ascribing it to an insufficiency of the primordial vital substance.

Nov. 15, 1919, **20**, No. 46

*Artificial Pneumothorax in Treatment of Pleurisy with Effusion. E. Riccioli.—p. 541. To be cont'd.
Epidemic Lethargic Encephalitis. Alesandri.—p. 545.

**Artificial Pneumothorax in Pleurisy.**—Riccioli comments on the prompt improvement in the six cases reported in which air was allowed to enter the thorax after evacuation of the effusion. The patients' ages ranged from 9 to 72.

## Brazil-Medico, Rio de Janeiro

Dec. 13, 1919, **33**, No. 50

*Physiologic Section of Pneumogastrics in the Dog. M. Ozorio de Almeida.—p. 393.
*Postinfluenzal Intestinal Hemorrhage. A. Prado.—p. 394.

**Experimental Blocking of the Pneumogastrics.**—Ozorio has been studying the effects on the respiration from physiologic section of the pneumogastric nerves in the dog, by laving them with procain.

**Postinfluenzal Intestinal Hemorrhage.**—Prado has encountered cases of tardy hemorrhage from the bowel in persons who had been having the gastro-intestinal form of influenza. They resembled those of typhoid, but he does not know of any death from this cause.

## Semana Médica, Buenos Aires

Nov. 20, 1919, **26**, No. 47

*Motor Plastic Amputations: Cinematization. G. Bosch Arana.—p. 621.
*Brain Tumors in Children. R. A. Rivarola.—p. 636.
*Influenza and Typhus. G. Sanguineti.—p. 642.
*Endocrine Rheumatism. E. A. Lombardi.—p. 646
Fluorene as Reagent for Aldehyds. L. Guglialmelli and A. Delmon. —p. 653.

**Motor Plastic Amputations.**—Among Bosch's thirty-three illustrations are some which show the peculiar looking stump of the upper third of the thigh as remodeled for cinematization; then the details of the artificial leg provided to utilize the muscular force in the loops of the stump, and, finally, the movements of the foot as the patient flexes and extends the knee by control from the muscle loops. The foot can be swung through an arc of 30 degrees. The man thus walks by the natural bending of the knee, and in two months has already learned to manage his artificial leg quite well. Bosch urges others to continue work in this line, dwelling on the benefit to society and to the state, as well as to the individual, from this utilization of muscular energy hitherto lost by the old systems of mutilating surgery. The prosthetic appliances for leg and arm which he uses were constructed under his directions.

**Brain Tumors in Children.**—Rivarola's article is based on nineteen personal cases and 120 from the literature. He was impressed with the length of the interval in others' cases between the first examination and the diagnosis of the location of the tumor, and the further delay after this before the operation. Except syphilomas, all brain tumors, he declares, should be removed no matter what their nature may be. Lumbar puncture is of no use, and exposes to serious mishaps. Radiography is also no help in the diagnosis, except with tumors of the sella turcica. The tuberculin and Wassermann tests are also useless for determining the nature of the tumor. He suggests that there may be a field here for radium treatment. Tuberculomas form about 50 per cent. of the cases of brain tumor in children, while syphilomas form barely 0.3 per cent. The cerebellum is the preferential site of the tumor in children. Brain tumors in children are easily enucleated as a rule. The physiology of the child's brain differs from the adult; certain centers are not yet anatomically formed, and hence the manifestations of their functioning are lacking from the clinical picture of brain tumors as we see it in adults; owing to this, diagnosticians are often misled. The first objective symptoms noticed by the family are very important for the diagnosis, besides the cardinal symptoms, headache, vomiting, constipation and edematous optic disk or optic neuritis. These symptoms combined point to a brain tumor, and the fundus findings are always pathologic. Mercurial treatment may be pushed but no more than two or three weeks should be wasted on it, while the child is being watched for other symptoms. The question then is whether the tumor is in the cerebellum or in one of the seven main areas of the brain. Greater precision is not necessary as the whole of one of these areas is exposed, and it is easy to detect symptoms traceable to such a large zone. The cerebellar, frontal, rolandic, parietal and pedunculocerebellar zones are responsible for fully 80 per cent. of all brain tumors in children, and these areas yield the most instructive symptoms. Perhaps this is because these zones are the better irrigated and most active functionally. Hemianopsia along with disturbances in gait, noticed by the parents before occipital symptoms developed, point to the cerebellum, disregarding the occipital manifestations as these are probably due to compression from a distance. If before the general convulsions developed, there were convulsive spasms of the muscles of the neck and shoulders, the frontal lobe should be suspected. If the child complained of its ear along with the intense headache, examine the temporal lobe. More than in surgery elsewhere, an early diagnosis and immediate operation should be the rule. He found only one case of syphiloma on record. This was in a girl of 9, and necropsy after a year of absolutely ineffectual specific treatment revealed the gumma which could easily have been removed during the eighteen months after the first symptoms.

**Influenza and Typhus.**—Sanguinetti presents arguments to show that dengue, influenza and typhus are linked together like measles and scarlet fever, or typhoid and colon bacillosis.

**Hypothyroidism and Rheumatism.**—Lombardi describes an extreme case of endocrine rheumatism in a woman of 53, with prompt recovery under thyroid treatment.

## Siglo Médico, Madrid

Jan. 3, 1920, **67**, No. 3447

The Mechanism of Normal Digestion in Infants. E. Suñer.—p. 1.

Jan. 10, 1920, **67**, No. 3448

*Viscosity of the Blood. H. Rodriguez Pinilla.—p. 17.
*The Urine and the Wassermann Reaction. J. Arijón Gende.—p. 18.

**Viscosity of the Blood.**—Rodriguez discusses the viscosity of the blood and its bearing on a number of biologic problems.

**The Urine and Hemolytic Tests.**—Arijón tabulates the findings in a number of comparative tests made with the blood serum and the urine for deviation of complement. Nothing was found to indicate the presence of an antigen in urine even in cases with pronounced Wassermann reaction in the blood serum. It is theoretically possible, however, he admits, for certain urines to behave like an antigen in the Wassermann test; some of the colloids in the urine, when sufficiently concentrated, might act in this way.

## Berliner klinische Wochenschrift, Berlin

Nov. 10, 1919, **56**, No. 45

Relations of Autonomic Nervous System to the Striated Muscles. E. Frank.—p. 1057. To be cont'd.
*A Third Form of Paratyphoid. F. H. Lewy and F. Schiff.—p. 1059.
Fistulas of the Urinary Organs. M. Zondek.—p. 1060
*Autogenous Vaccine Treatment in Diplococcus Infection of the Urinary Organs. E. Pfister and W. Böhme.—p. 1063.
Apparatus for Exercising Cinematized Muscle Loops after Amputations. M. Blumenthal.—p. 1064.
Postbellum Campaign Against Tuberculosis in France. J. W. Samson. —p. 1065.

**A Third Form of Paratyphoid.**—Lewy and Schiff describe a third form of paratyphoid that they encountered in Asiatic Turkey. Neukirch, and, at about the same time, Weil, furnished the first information in regard to the causative agent (the Ersindjan bacillus) in 1915. Schiff first isolated this

bacillus in 1916 in Aleppo, Syria. Up to September, 1918, Lewy and Schiff had seen approximately eighty cases definitely established by bacteriologic examination. Very light infections were common among the native population. However, cases were observed, especially among the German soldiers in Palestine, that developed a protracted fever of a very irregular type and often ended fatally. The Ersindjan bacillus produces typically a septic infection that is characterized by remittent fever, bacteremia, a septic blood picture, embolic abscesses; hemorrhagic inflammation of the kidney, the intestine and the liver; minute abscesses and necrosis of the liver and kidneys, hemorrhages of the serous membranes, and a septic spleen. Accumulations of bacteria in certain parts may produce septic meningitis, septic pneumonia or pyelitis. While a septic course is not typical for paratyphoid A and B, it is the rule in the paratyphoid of which *B. Ersindjan* is the causative agent. Although this infection is very commonly associated with dysentery, influenza or malaria, it nevertheless seems to be a distinct morbid entity. The mode of transmission is probably by direct contact with infected persons, though it may possibly occur through eating certain foods. So far there have been no authentic cases of the infection in Germany. The Ersindjan bacillus received its name from the place where it was first isolated. Its resemblance to *Bacillus suipestifer* is marked.

**Autogenous Vaccine Treatment in Diplococcus Infection of the Urinary Organs.**—Pfister and Böhme give their experience with a micro-organism, a diplococcus, found in the urine of a patient who complained of headache and pain in the sacral region. The urine had a whitish tinge and albumin was present. The patient improved but the urine did not clear up. Following a "cold," the headache and back pains came on anew. In the urine sediment many red and white blood corpuscles were found; also an unusual number of gram-positive diplococci. A prostatitis was present, with many pus cells, but no bacteria. Functional tests of the kidneys revealed a diminished power of secretion and concentration. The Wassermann test was negative; also roentgenologic examination of the kidneys. Blood pressure was 111-121; albumin content, 0.1-1.0 per cent.; quantity of urine normal. The residual nitrogen in the blood was markedly increased. The diagnosis was chronic pyelonephritis (without casts), with aseptic prostatitis. An autogenous vaccine was prepared. The diplococcus was cultivated and a pure culture secured. In the blood of the patient agglutinins in the titer ratio of 1:500 were found. Immediately after the vaccine treatment was begun, the urine cleared up, the diplococci disappeared from the urine. The writers regard the case as interesting as showing that autogenous vaccine treatment may be successful in infections of the urinary organs other than those produced by *B. coli*. The identity of the diplococcus could not be fully established. It seemed to be a new invader.

## Münchener medizinische Wochenschrift, Munich

Nov. 21, 1919, **66**, No. 47

*Graduated Exercises in the After-Treatment of Disease. H. Quincke.—p. 1339.
Statistical Showings in Consanguineous Marriages. F. Lenz.—p. 1340.
*Direct Method of Testing Faradic Excitability. P. Erlacher.—p. 1342.
*Rhythmic Pressure Massage (Cederschiöld). G. B. Schmidt.—p. 1343.
Contact Infection in Relation to Paratyphoid B. W. Schmid.—p. 1345.
Observations on the Sachs-Georgi Reaction. Felke and C. Wetzell.—p. 1347.
Generalized Emphysema in Influenza. A. Schwenkenbecher.—p. 1348.
Tardy Rachitis in Relation to Schlatter's Disease. Schlee.—p. 1349.
Ankylostomiasis in War Prisoners. H. Bruns.—p. 1350.
Plaut's Angina Treated by Rosenbach Tuberculin. C. Stuhl.—p. 1351.
Subcutaneous Rupture of the Biceps Brachii by Direct Force. M. Schülein.—p. 1352.
Water from the City Mains Used in Neo-Arsphenamin Injections. J. Katzenstein.—p. 1352.
Conditions Governing the Course of Tuberculosis. H. Hayek.—p. 1352. Conc'n.

**Value of Physical Exercises in the After-Treatment of Internal Diseases.**—Quincke emphasizes the great value of graduated physical exercises in the after-treatment not only of diseases affecting the joints and muscles but also in pleuritis, enteroptosis, chronic constipation, and in practically all internal diseases. Only a few patients need special exercises adapted to their peculiar condition, but all convalescents will make more rapid and surer progress toward health if they are required regularly to go through such setting-up drills as are in use in the army and in the gymnasiums. Of course, the amount and the character of the exercise will depend on the condition of the convalescent. The first exercises after recovery and after rising from a sick bed should be taken alone, but after convalescents have partially recovered their strength there is added value in exercises carried out in groups or classes. Such exercises not only restore a normal blood circulation, but they are needed to give control of bodily movements, for long confinement to the bed will often have impaired the motor apparatus.

**A More Direct Method for Testing the Faradic Excitability.**—Erlacher gives a preliminary report of his investigations on the possibility of testing in a more direct manner the faradic excitability of paralyzed muscles. Instead of testing through the skin, as heretofore, he inserts about 2 cm. apart, two fine needles, previously immersed in alcohol, into the skin which has been disinfected with iodin or alcohol, and pushes them from 8 to 15 mm. deep into the muscle to be tested. The two needles are then connected with the respective poles of the faradic current by an uninsulated, soft copper wire, which is wound spirally around each needle and soldered to it. A simple form of interrupter is inserted. Weak currents such as are scarcely felt when applied to the tongue produce a distinct twitching of the muscle fibers lying between the two needles. Somewhat stronger currents cause a puckering of the area contiguous to the excited muscle. Still stronger currents—but not nearly so strong as are required in the percutaneous testing—produce a distinct contraction. As a rule, it is not necessary, when this method is used, to increase the current until a motor effect is produced, as the twitching of the muscle fibers will usually be sufficient. Muscles that by the percutaneous method were declared to be completely paralyzed were found to react when stimuli were applied by this direct method. It is evident that death of muscular tissue—from a faradic standpoint—does not take place so quickly nor so early as has been heretofore assumed. Erlacher claims, therefore, greater diagnostic value for his more delicate method of muscle testing.

**Rhythmic Pressure and Release in the Cederschiöld Method of Massage.**—Schmidt announces, after over ten years' experience, that the Cederschiöld method of manual massage is the most conservative and at the same time the most effective. He considers it the most conservative method because the soft parts that may have been injured are not exposed to further injury as is the case when they are kneaded, stroked and rubbed. It is effective because by the systematic application and removal of pressure as brought to bear on the periphery of a limb, a suction and pumping action is brought into play in the most excellent manner; congestion in the lymph glands and in the blood vessels is counteracted, and extravasated matter is more readily absorbed. By this method, in large cicatricial areas vascularization is stimulated and function is restored, whereas by frictional massage delicate tissues may be torn, and new, though slight, lacerations be produced. In applying rhythmic pressure to an upper extremity, the arm is encircled by the hand of the operator and the pressure is gradually increased until the arm is tightly grasped; the pressure is then slowly removed, and the operator advances a hand's breadth centrad, and proceeds as before until the whole arm has been thus massaged. In massage of the lower extremities and the trunk, both hands are used. The extensors and the flexors may be treated separately, and it is often convenient to use the bones as a base. Cederschiöld, following the example of Rosthorn, has found that rhythmic pressure massage may exert a favorable influence even in mental diseases and in depressive states.

## Zentralblatt für Chirurgie, Leipzig

Jan. 31, 1920, **47**, No. 5

*Blocking the Splanchnic Nerves. M. Kappis.—p. 98.
*Prevention of Caustic Strictures. F. Bonhoff.—p. 99.
*Wire Suture. A. Knoke.—p. 99.
*Access to Deep Phlegmon of the Axilla. W. Levy.—p. 101.

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**Blocking the Splanchnic Nerves.**—Kappis remarks that Braun's method of injecting the anesthetic from the front confirms the ideal anesthesia of the viscera when the splanchnic nerves are blocked. Braun introduces the needle, through the laparotomy incision, along the lower margin of the liver, injecting 100 c.c. of a 0.5 per cent. procain-epinephrin solution, distributed on both sides of the aorta near the first lumbar vertebra. Kappis makes the injection from the rear, just below the twelfth rib, distributing the anesthetic by moving the tip of the needle 3 cm. upward and then 3 cm. downward, about 0.25 to 0.5 cm. from the spine, thus spreading the 50 c.c. on each side over a larger area than by his previous technic (mentioned in these columns, Feb. 21, 1920, p. 568).

**Prevention of Strictures from Caustic Action.**—Bonhoff relates that no stricture has developed during the two years since in a case of caustic injury of the esophagus in which he introduced at once a retention sound. It was worn until healing was complete, and it warded off cicatricial retraction of the walls. The caustic was ammonium chlorid (salmiak) in this case. Roux of Lausanne has recently reported similar success with this preventive catheterization.

**Wire Suture.**—Knoke has been using wire recently as other suture material is so scarce and poor. A method that has proved very satisfactory is to draw the wire through the two lips and cut it off, each end held with forceps. As many wires as are needed are introduced, the row of forceps on each side keeping them from slipping out. Then the ends of each wire are twisted together over a long roll of gauze by turning the corresponding forceps around each other.

**Deep Phlegmon in the Axilla.**—Levy expatiates on the difficulty of diagnosing these deep phlegmons which often prove fatal, as in two cases reported. There may be no local symptoms except a slight tenderness on the front of the shoulder, or a sensation of heaviness in the arm, or there may be nothing to call attention to the process except a history of some insignificant wound on a finger a week or two before, followed by high fever and general depression. If one operates on these findings alone, the results may be disappointing, but this should not deter from intervention when the general condition is grave. The chief danger is the possibility of the spread of the process. Some surgeons incise along the lower margin of the pectoralis major, but Levy found that the process, in one case described, could be fully exposed only by incising from the clavicle to and beyond the insertion of the pectoralis major on the upper arm, and cutting this muscle close to its insertion, and also cutting the pectoralis minor. These muscles heal readily without appreciable functional disturbance, he has found. This opens up the phlegmon, and its spread can be traced in three directions.

## Zentralblatt für Gynäkologie, Leipzig

Jan. 31, 1920, **44**, No. 5

The Maternities and Illegitimate Children. E. Martin.—p. 121.
*Ileus in the Pregnant. A. Hofmann.—p. 124.
*Maceration of Living Child. H. Lorenzen.—p. 127.

**Ileus in the Pregnant.**—In the first of Hofmann's two cases, the woman developed ileus twice at the fifth month of a pregnancy, and prompt laparotomy corrected the obstruction from fibrous bands, each time, and also in the other case.

**Maceration of Living Child.**—The primipara of 26 in the case reported by Lorenzen seemed to be normal, and the child was spontaneously delivered. It weighed 3,210 gm. and the aspect was that of complete maceration, but by the end of a week the loose scraps of epidermis had been cast off, and the child thrived thereafter.

## Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Dec. 20, 1919, **2**, No. 25

*The Language of Medical Writings. G. van Rijnberk.—p. 2009.
*Sarcoma of Thyroid and Pancreas. E. C. Van Rijssel.—p. 2014.
Will and Movement. A. A. Grünbaum.—p. 2025.
Medical Inspectors of Schools and the Public Health. H. Aldershoff.—p. 2035.
*Case of Quincke's Edema. H. Bolten.—p. 2037.
Embolism of Pulmonary Arteries. J. F. O. Huese.—p. 2040.

**The Language of Medical Writings.**—See editorial comment, page 893, on van Rijnberk's communication.

**Sarcoma of Thyroid and Pancreas.**—Van Rijssel found a tumor in the thyroid in 4 out of 650 cadavers; in another cadaver there was metastasis in the thyroid; in another the thyroid contained an adenoma and weighed nearly 73 gm. A seventh cadaver presented a rapidly growing primary giant-cell sarcoma in the thyroid with metastasis in the lungs. He has encountered another case of sarcoma in the thyroid in a woman of 61, inoperable within three weeks of the first signs of trouble, and death in less than six weeks, from multiple metastases. Both these cases confirmed the saying that a malignant tumor in the thyroid does not move with the trachea during swallowing, as simple goiter does. The cancer grows to adjacent organs. Among the total 6,400 cadavers examined there were 733 with carcinomas and 105 with sarcomas. The pancreas was the seat of the malignant disease in 25 cases, including only one of sarcoma. This was in a man of 25 and the sarcoma was of the giant cell type.

**Quincke's Edema.**—Bolten reports a case in which attacks of migraine were accompanied with a set of symptoms which can be explained only as intra-abdominal angioneurotic edema appearing and subsiding with the migraine in a woman of 40.

## Hygiea, Stockholm

Dec. 31, 1919, **81**, No. 24

*Spinal Cord Tumors. L. Ehrenberg.—p. 970.

**Spinal Puncture Findings with Spinal Cord Tumors.**—In Ehrenberg's eight cases the tumor was in the dorsal region in five and the cauda equina in the three others. He found in two cases moderate lymphocytosis accompanying the Nonne reaction; in another case both were absent. The findings indicated that the slight lymphocytosis, xanthochromia and large globulin content are a sign of grave obstruction of the fluid by the tumor. The pure Nonne reaction was observed only when the stasis was not very pronounced. It was found in the fluid the same above as below the tumor.

## Ugeskrift for Læger, Copenhagen

Feb. 5, 1920, **82**, No. 6

*Prognosis with Influenzal Pneumonia. V. Bie.—p. 175.
*Silver Salvarsan. H. Boas and A. Kissmeyer.—p. 191; Idem. A. Korsbjerg.—p. 196.

**The Prognosis with Influenzal Pneumonia.**—Bie states that 94 per cent. recovered of his 269 patients with unilateral pneumonia with a respiration rate of 34 or below, while only 54 per cent. recovered of those with a rate of 40 or above. With bilateral "flumonia," 74 per cent. recovered of the 287 with respiration of 39 or below and only 33 per cent. of the forty with a rate 40 or above. The total mortality in this group was 35 per cent. The respiration rate is thus an important element in the prognosis. The mortality was 35 per cent. in the pneumonia cases with albuminuria, but only 12 per cent. in those without albuminuria. The highest temperature noted was in a man who recovered; the lowest in one who died. These and other data mentioned show that the temperature has little value for the prognosis; the pulse is more instructive. All who died had a comparatively high pulse rate, 109 or 110. All the above records refer to the day the patient was brought to the hospital, or the next day. Bie's article is based on 1,653 patients, and he calls attention to the fact that not less than 15 per cent. of those received in the hospital during the later months of the pandemic had had the disease during the early months, and this was the third attack within a year in some.

**Silver Salvarsan.**—Boas and Kissmeyer relate that Kolle presented them with 400 tubes of silver salvarsan, and they applied it in treatment of sixty-two syphilitics, with results that show it is at least the equal of old salvarsan, while it is much more soluble. Korsbjerg reviews what others have published on the subject. His own experience with it in thirty-two cases left a very favorable impression. He says that the drug contains 14 per cent. silver and 22.5 per cent. arsenic, and has a catalytic action.